



Microsoft 365 Excel: Online

Microsoft 365 Training

Microsoft 365 Excel: Online

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Microsoft® 365 Excel®: Online

Courseware Release Version 4.0

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Microsoft® 365 Excel®: Online

Contents

About This Course	1
Course Prerequisites	1
Course Overview	1
Course Objectives	1
How to Use This Book	2
Lesson 1: Getting Started	3
TOPIC A: Getting Started with Excel Online.....	4
Logging into Office 365	5
Launching Excel Online	8
The Excel Online Interface	10
Creating a New Workbook.....	12
Closing Excel Online	16
Activity 1-1: Getting Started with Excel Online.....	17
TOPIC B: Getting to Know Excel	23
What are Spreadsheets, Worksheets, and Workbooks?	24
What are Columns, Rows, Cells, and Ranges?	24
Navigating in Excel	25
Excel Formulas	26
Activity 1-2: Getting to Know Excel.....	28
TOPIC C: Managing Workbooks	34
Opening a Workbook	35

Editing Your Workbook in Excel Desktop.....	36
Accessing Save Options.....	38
Using the Accessibility Checker.....	41
Printing a Workbook.....	42
Sharing a Workbook.....	43
Activity 1-3: Managing Workbooks.....	46
TOPIC D: Getting Help in Excel Online	51
Using the Help tab	52
Giving Feedback About Office.....	55
Activity 1-4: Getting Help in Excel Online	57
Summary	60
Review Questions	60
Lesson 2: Working with Data	61
TOPIC A: A Closer Look at Formulas	62
The Formula Bar.....	63
Elements of an Excel Formula.....	64
Mathematical Operators.....	64
The Order of Operations.....	65
Types of References.....	65
Activity 2-1: A Closer Look at Formulas	67
TOPIC B: Using Formulas and Functions	73
About Functions.....	74
Creating a Function with AutoComplete.....	75
Using the Insert Function Dialog Box.....	77
Using AutoSum.....	79
Viewing AutoSum Calculations in the Status Bar	81
Automatic Workbook Calculations	82
Activity 2-2: Using Formulas and Functions.....	83

TOPIC C: Working with Data	91
Selecting Cells.....	92
The Cut, Copy, and Paste Commands	93
Using Paste Options	95
Moving Data with Drag and Drop	96
The Undo and Redo Commands.....	97
Using AutoFill	98
Using Flash Fill.....	100
Activity 2-3: Working with Data	103
TOPIC D: Working with Rows and Columns.....	108
Inserting Rows and Columns.....	109
Deleting Rows and Columns.....	110
Clearing Data from Cells.....	111
Changing Column Width and Row Height.....	111
The Hide and Unhide Options	113
Activity 2-4: Working with Rows and Columns	116
TOPIC E: Sorting and Filtering Data	123
The Difference Between Sorting and Filtering	124
Sorting Data	124
Enabling Filtering.....	126
Using Text Filters.....	129
Clearing a Filter	131
Activity 2-5: Sorting and Filtering Data	133
Summary	138
Review Questions	138
Lesson 3: Formatting a Worksheet	139
TOPIC A: Formatting Text.....	140
What is a Font?	141

The Font Group	142
The Format Painter	143
Creating Links.....	144
Activity 3-1: Formatting Text.....	147
TOPIC B: Formatting Cells	152
Applying a Border	153
Applying a Fill	155
Changing the Number Format	156
Customizing Number Formats	157
Activity 3-2: Formatting Cells	160
TOPIC C: Aligning Cell Content	167
Alignment Options	168
The Indent Commands.....	168
The Wrap Text Command	169
Merge & Center Options.....	170
Activity 3-3: Aligning Cell Content.....	173
TOPIC D: Using Find & Select Tools	177
The Find Command	178
The Replace Command	180
The Go To Command	181
Activity 3-4: Using Find & Select Tools.....	183
TOPIC E: Applying Conditional Formatting	188
What is Conditional Formatting?	189
Applying Conditional Formatting Rules	189
Setting Conditional Formatting Options	191
Clearing Conditional Formatting.....	195
Activity 3-5: Applying Conditional Formatting	196
Summary	201
Review Questions	201

Lesson 4: Adding Pictures and Shapes 202

TOPIC A: Inserting Pictures 203

Inserting Pictures 204

Resizing Pictures..... 205

Rotating Pictures 206

Deleting Pictures 206

Adding Alternative Text 207

Activity 4-1: Inserting Pictures 209

TOPIC B: Inserting Shapes 214

Inserting Shapes 215

The Shape Tab..... 216

Resizing Shapes 217

Deleting Shapes..... 217

Activity 4-2: Inserting Shapes..... 218

TOPIC C: Formatting Shapes..... 220

Changing the Shape Type..... 221

Applying a Style..... 222

Customizing Shape Fill and Outline..... 223

Adding Alternative Text 224

Activity 4-3: Formatting Shapes 226

Summary 229

Review Questions 229

Lesson 5: Organizing Worksheet Data with Tables and Charts 230

TOPIC A: Inserting Tables 231

What is a Table? 232

Creating a Table 233

Customizing Row Display 234

Inserting and Deleting Table Rows and Columns..... 235

Sorting and Filtering Table Data.....	236
Activity 5-1: Inserting a Table.....	238
TOPIC B: Inserting Charts	246
Chart Types	247
Chart Elements.....	248
Inserting a Chart.....	249
The Chart Contextual Tab	251
Moving Charts.....	252
Resizing Charts	253
Activity 5-2: Inserting Charts.....	254
TOPIC C: Modifying Charts	258
Switching Row and Column Display.....	259
Use the Select Data Command	260
Changing the Chart Type.....	261
Adding a Chart Title	263
Modifying Chart Labels	265
Modifying Chart Axes.....	266
Activity 5-3: Modifying Charts.....	268
Summary	273
Review Questions	273
Lesson 6: Using PivotTables.....	274
TOPIC A: Inserting PivotTables.....	275
What is a PivotTable?.....	276
Creating a PivotTable	277
The PivotTable Fields Task Pane	282
Working with PivotTable Data	283
Activity 6-1: Inserting PivotTables.....	287
TOPIC B: Working with PivotTable Data	292

Expanding and Collapsing Data	293
Refreshing Data	296
Using the Value Field Settings Menu	297
Summarizing Values	299
Changing Value Display	302
Activity 6-2: Working with PivotTable Data	303
TOPIC C: Sorting and Filtering PivotTable Data	307
Sorting Data	308
Using the Filters Pane	309
Using Label and Value Filters	311
Clearing Filters	312
Activity 6-3: Sorting and Filtering PivotTable Data.....	314
Summary	320
Review Questions	320
Lesson 7: Finalizing Workbooks	321
TOPIC A: Using Comments	322
Inserting Comments	323
Showing and Hiding the Comments Pane	325
Replying to Comments	326
Deleting Comments.....	328
Activity 7-1: Working with Comments	329
TOPIC B: Managing Worksheets (Part One)	335
Viewing Worksheets	336
Inserting Worksheets	337
Deleting Worksheets.....	338
Duplicating Worksheets	339
Worksheet References in Formulas	341
Activity 7-2: Managing Worksheets (Part One).....	342

TOPIC C: Managing Worksheets (Part Two)	346
Hiding and Unhiding Worksheets	347
Reordering Worksheets	349
Renaming Worksheet Tabs	351
Changing Tab Color	353
Activity 7-3: Managing Worksheets (Part Two)	354
TOPIC D: Changing View Options	358
Showing and Hiding Workbook Elements.....	359
The Freeze Panes Options.....	360
Activity 7-4: Changing View Options.....	361
Summary	364
Review Questions	364
Lesson Labs	365
Lesson 1	365
Lesson Lab 1-1.....	365
Lesson 2	366
Lesson Lab 2-1.....	366
Lesson Lab 2-2.....	367
Lesson 3	368
Lesson Lab 3-1.....	368
Lesson Lab 3-2.....	369
Lesson Lab 3-3.....	370
Lesson 4	371
Lesson Lab 4-1.....	371
Lesson Lab 4-2.....	372
Lesson 5	373
Lesson Lab 5-1.....	373
Lesson Lab 5-2.....	374

Lesson 6 **375**
 Lesson Lab 6-1 375

Lesson 7 **376**
 Lesson Lab 7-1 376
 Lesson Lab 7-2 377

Course Wrap-Up **378**

Post-Course Assessment **378**

Course Summary **381**

Answer Keys **382**

Lesson 1 Review Questions **382**

Lesson 2 Review Questions **383**

Lesson 3 Review Questions **384**

Lesson 4 Review Questions **385**

Lesson 5 Review Questions **386**

Lesson 6 Review Questions **387**

Lesson 7 Review Questions **388**

Post-Course Assessment **389**

Appendices **393**

Keyboard Shortcut Quick Reference Sheet **393**

Glossary **396**

ABOUT THIS COURSE

Course Prerequisites

This manual is designed for users who are comfortable using Windows and Microsoft Edge. Students should complete the first part of our Microsoft 365 courseware before beginning this course.

Course Overview

Welcome to our Microsoft 365 Excel Online courseware. Excel Online is Microsoft's cloud-based, easy-to-use spreadsheet program.

This course is intended to help all users get up to speed with Excel Online. We will cover:

- Getting started with the app
- Working with formulas and functions
- Formatting parts of a worksheet
- Using pictures, tables, charts, and PivotTables
- Finalizing workbooks

Course Objectives

By the end of this course, users should be comfortable with creating a new spreadsheet, working with basic formulas and functions, and making a spreadsheet look professional and presentable.

How to Use This Book

This course is divided into seven lessons. Each lesson focuses on several key topics, each of which are broken down into easy-to-follow concepts. At the end of each topic, you will be given an activity to complete. At the end of each lesson, we will summarize what has been covered and provide a few review questions for you to answer. Supplemental learning for selected topics is provided in the form of Lesson Labs at the end of this book.

NOTE: In order to complete this course, each student will require a Microsoft account. Students should upload the course's Exercise Files to their OneDrive account prior to beginning the course. A local copy of these files is also required for some activities. Due to the nature of Excel Online, it is recommended that students complete all lessons in order.

LESSON 1: GETTING STARTED

Lesson Objectives

In this lesson you will learn how to:

- Get started with Excel Online
- Describe the basic components of Excel
- Manage workbooks
- Get help in Excel Online

TOPIC A: Getting Started with Excel Online

Excel Online is the cloud-based version of Microsoft's spreadsheet program. It offers many tools for managing numerical data, as well as the ability to add charts, shapes, and much more. Best of all, Excel Online's interface is intuitive (particularly if you have used the desktop version), so the features you need will be easily accessible.

Topic Objectives

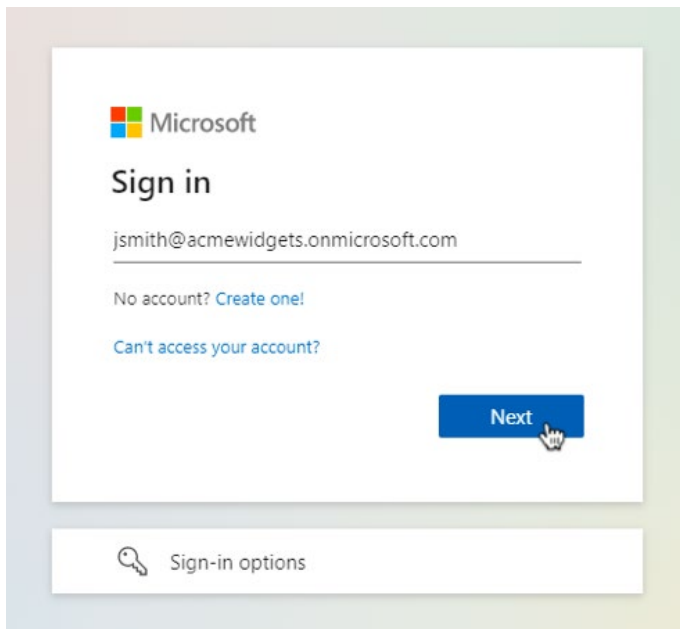
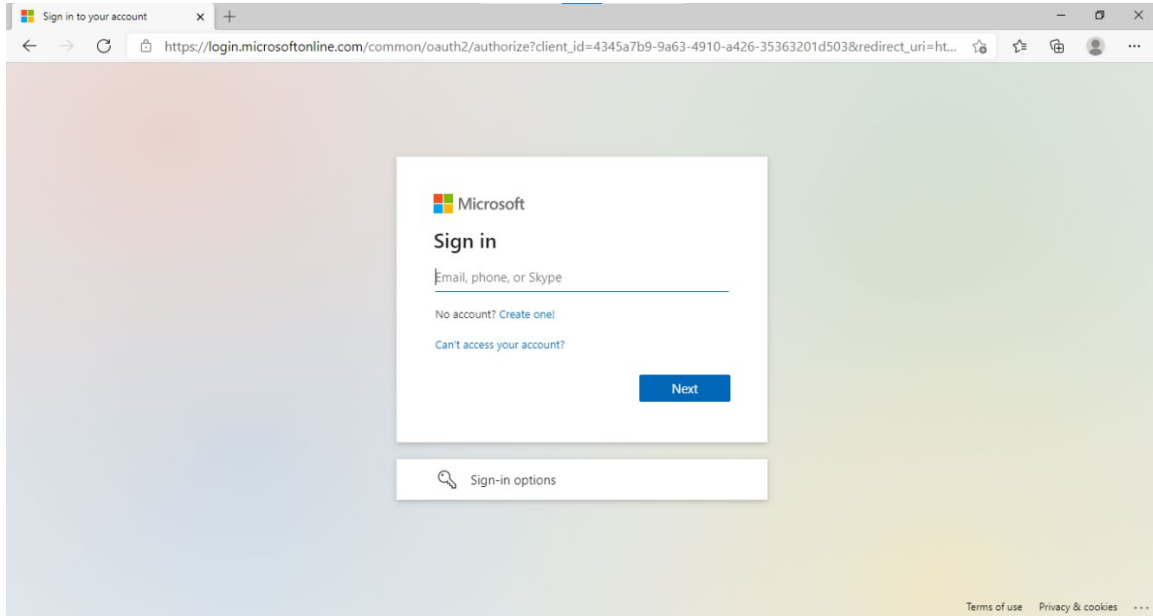
In this session, you will learn how to:

- Log into Microsoft Office and start Excel Online
- Identify the components of the Excel Online interface
- Create a new workbook
- Close Excel Online

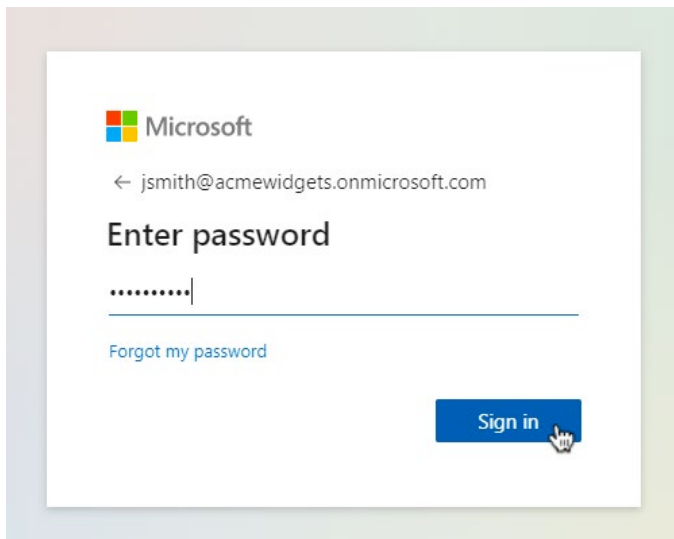
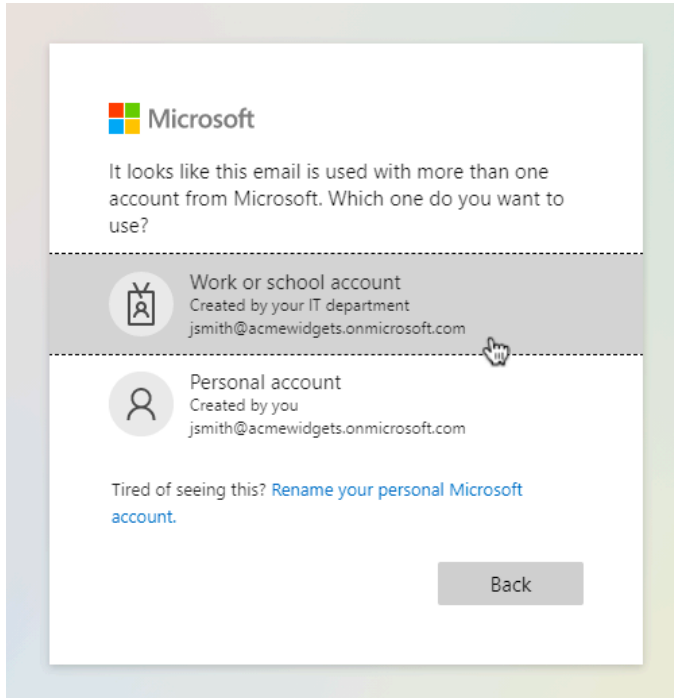
Logging into Office 365

Your first step before using Excel Online is to log into Office 365 with your Microsoft account. To start, open your internet browser and navigate to the login page at:

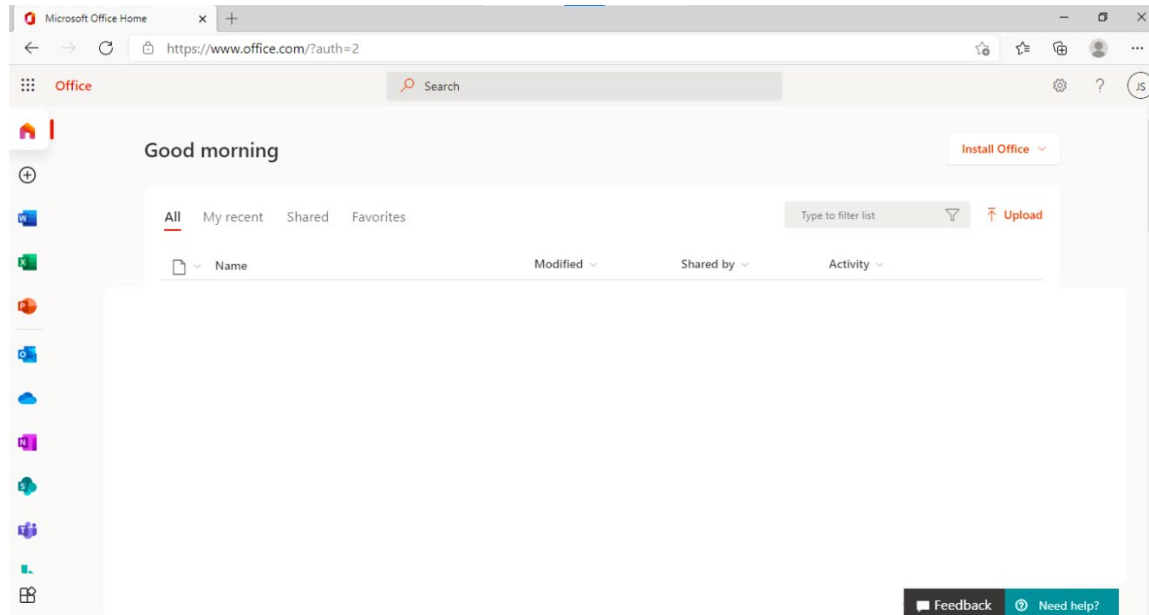
<https://login.microsoftonline.com:>



If prompted, choose the sub-account to sign in with:

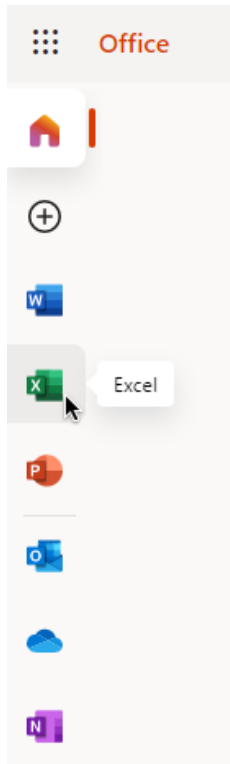


Now, you will see the Microsoft Office Home page:

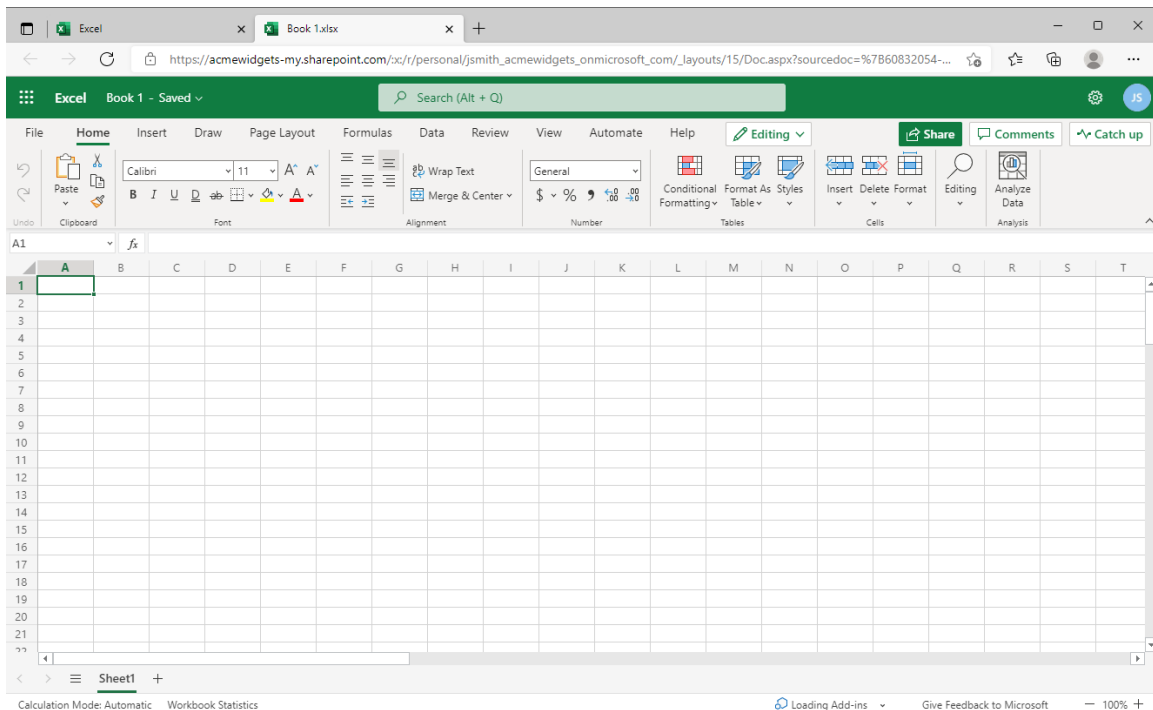
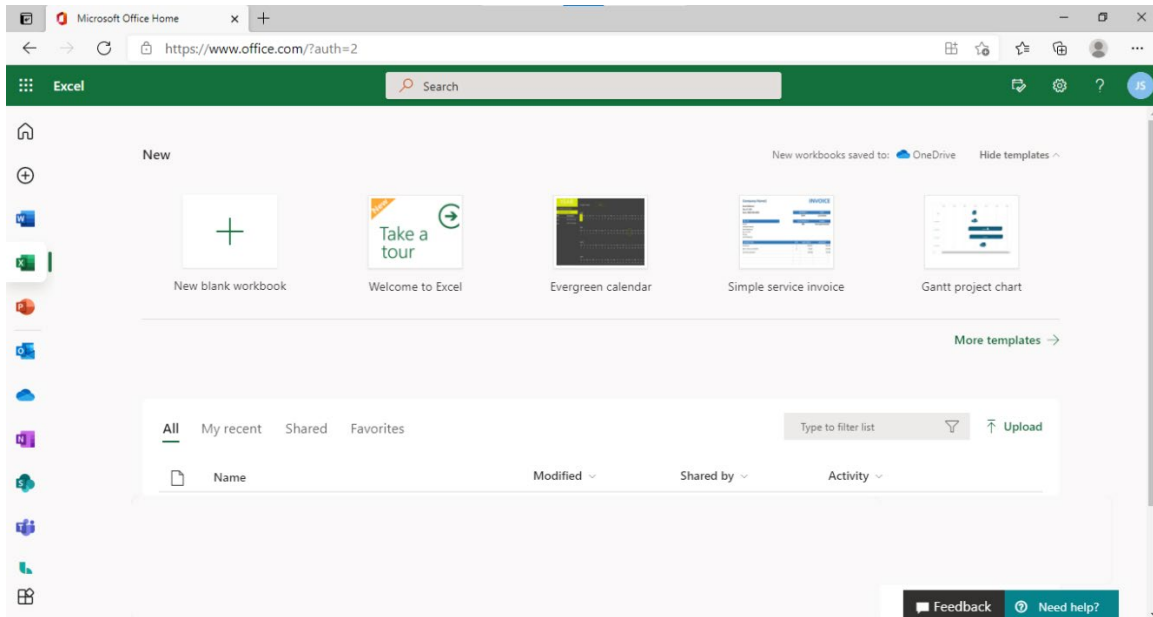


Launching Excel Online

To start Excel Online, click the icon on the Microsoft Office landing page:

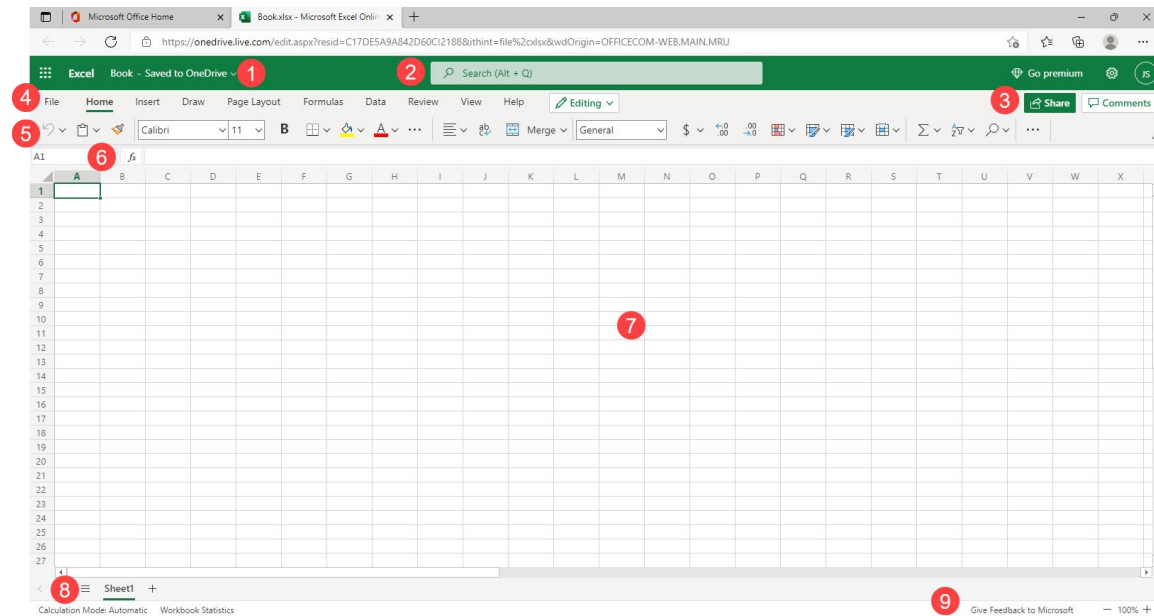


Excel Online will then open:



The Excel Online Interface

Excel Online looks and operates in much the same way as its desktop counterpart:



1: Title Bar

The top left part of the screen contains the name of the current file. You may also see more information about the file (for example, here you can see it has been saved). You can click the file name to change it.

You will also see the app launcher (where you can access other Office 365 apps), and the name of the app (Excel).

2: Search Bar

The Search Bar allows you to search for a variety of things related to your document. You can search for an action to complete (such as changing the font color or adding highlighting), locate words in your document, or search for a person's name that is connected to your Microsoft account. Type in the search bar to begin showing suggested results.

3: Sharing Commands

Click this button to share the current document.

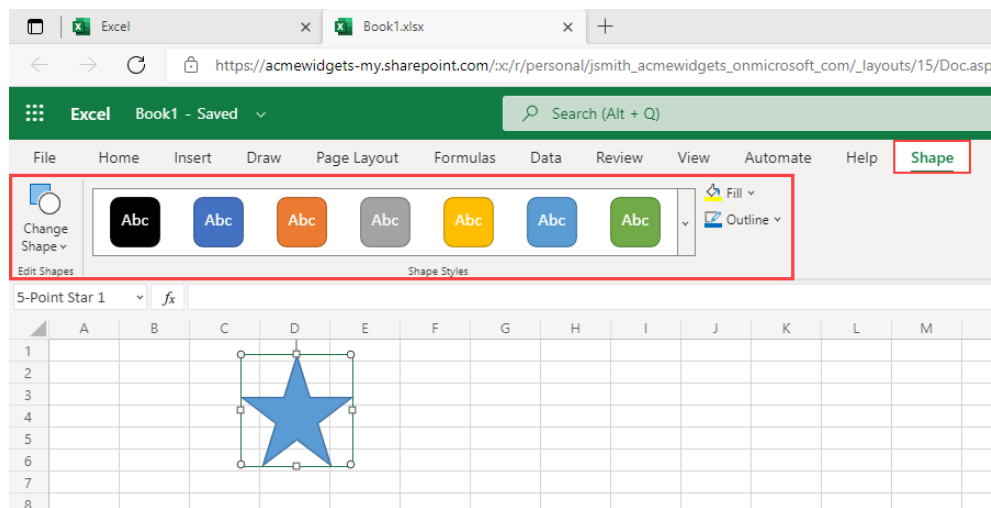
4: Tabs

Groups of similar commands are organized under tab names. Click a tab to view the commands in the ribbon.

5: Ribbon Interface

Displays tab commands organized into groups. If you click the different tabs, you will see the commands change. Notice, too, that some of the commands might be grayed out. This is because those commands are only usable in certain situations.

Like the desktop version of Excel, Excel Online also features contextual tabs. These are special tabs that only appear when you are working with a specific object or group of information. For example, if you were to insert and select a shape, you would see a contextual tab offering commands for that object:



6: Formula Bar

The Formula bar allows you to enter data in a cell.

7: Working Area

The data in the currently open file will be shown here.

8: Worksheet Commands

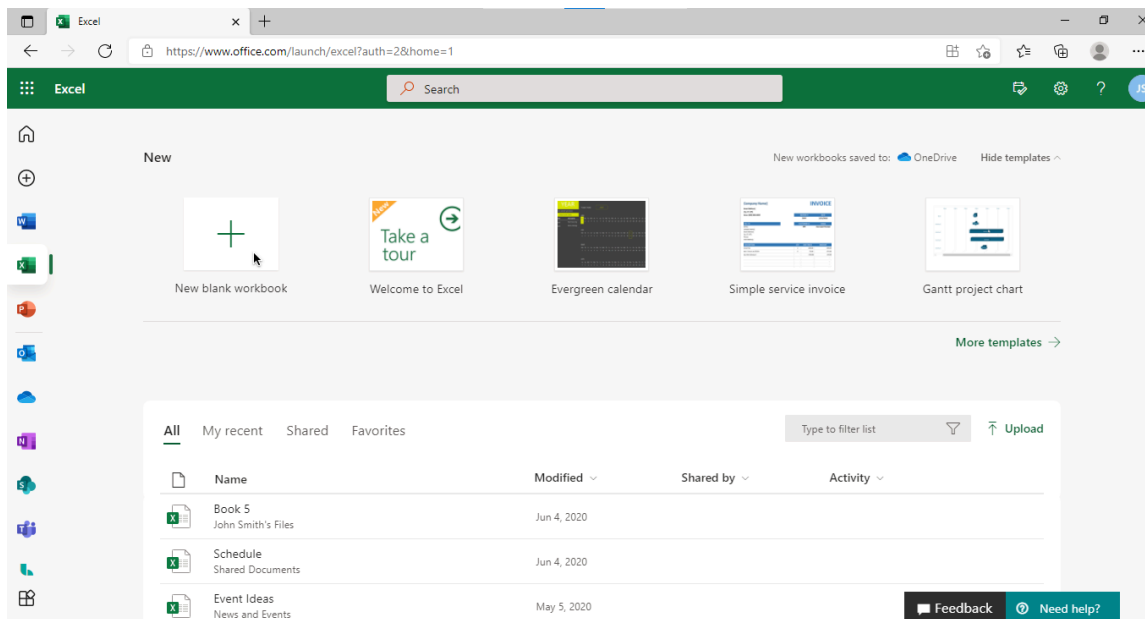
Every Excel file is properly referred to as a workbook, which can contain one or more worksheets. Click the tabs to switch between worksheets.

9: Status Bar

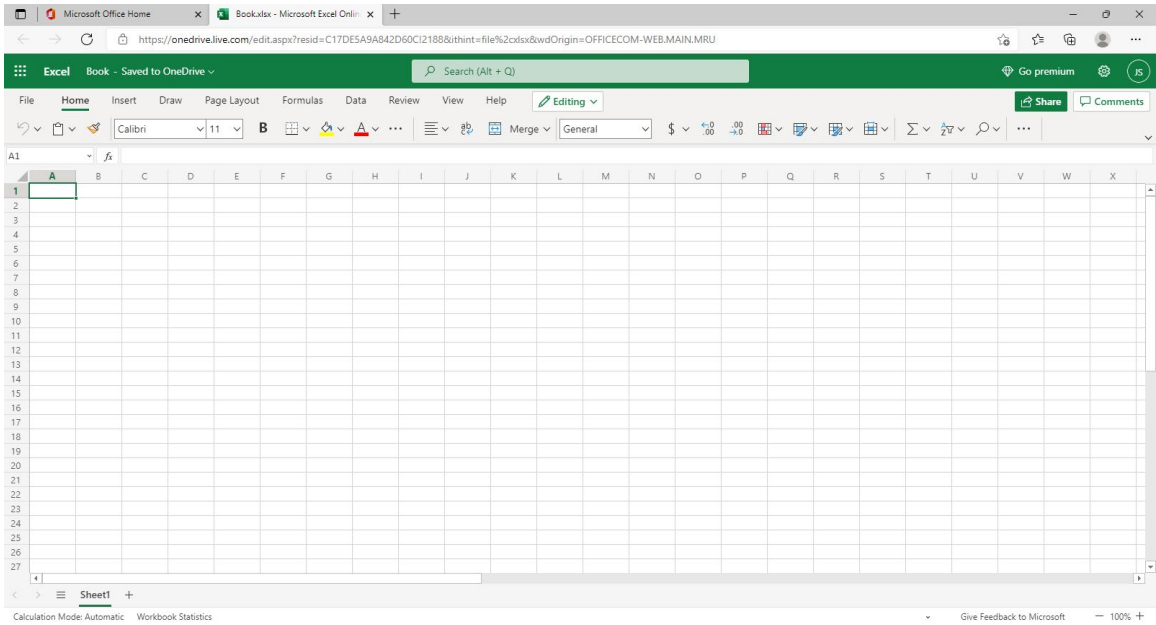
This bar displays running calculations and other information about the workbook.

Creating a New Workbook

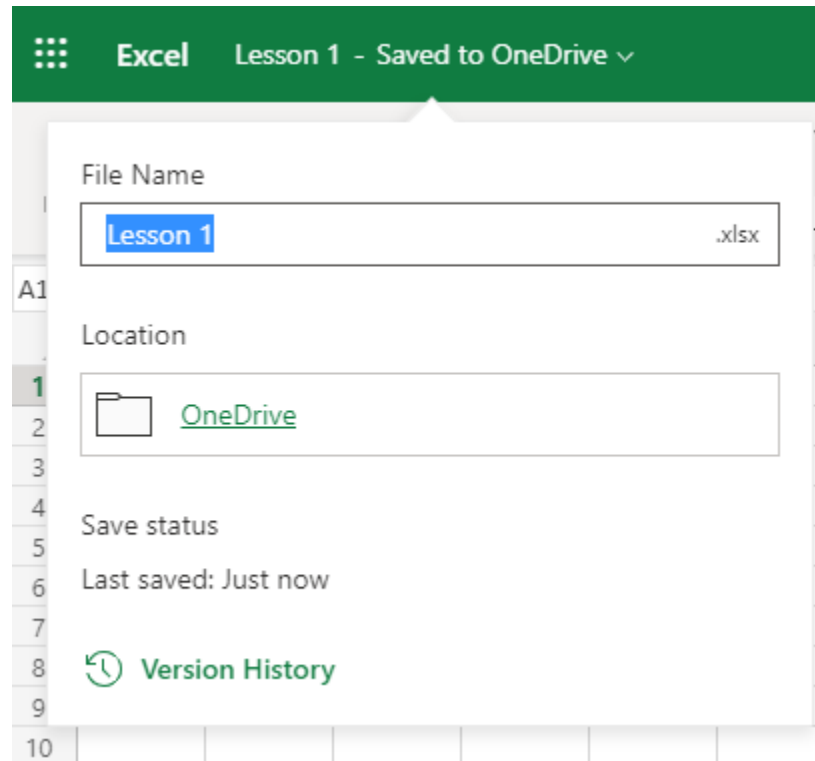
When you open Excel Online, you will be prompted to choose an existing workbook or create a new one. For this example, let's create a new, blank workbook by clicking the related thumbnail:



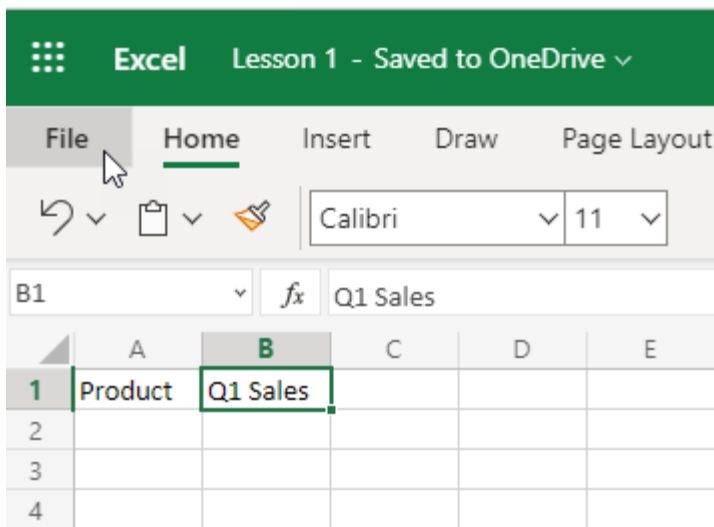
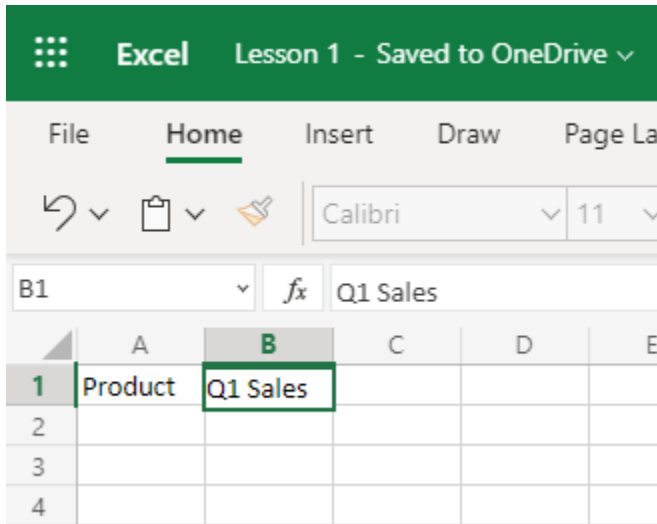
The workbook will be created and saved to either your personal OneDrive account or SharePoint space:



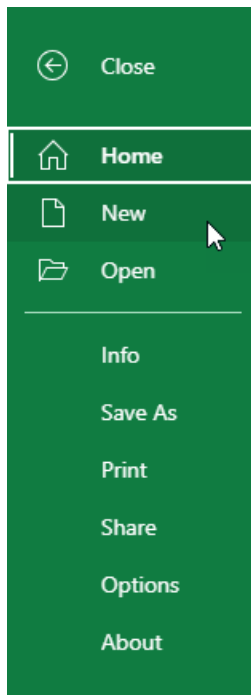
Note that this file will use “Book” as the default name. (A number may be added to the end if a workbook with the same name already exists in the save location.) To change its name, click the current name on the title bar, type the new name in the **File Name** field, and close the menu by clicking in the working area of the workbook:



Now, you can add your data just as you would in the desktop version of Excel:



Then, click the **New** category and click the thumbnail for the workbook you want to create:



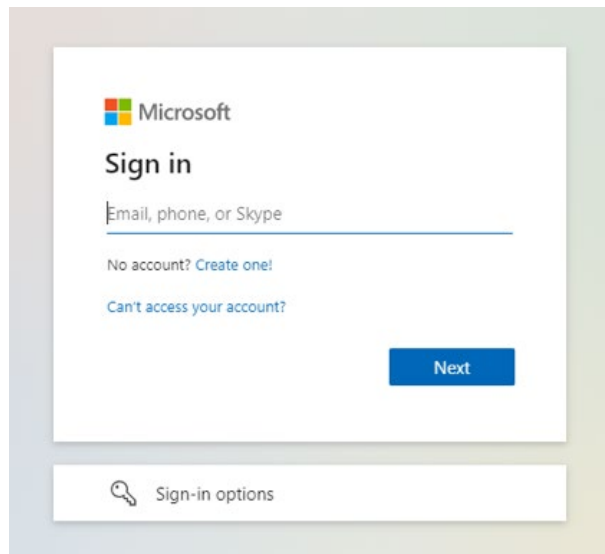
Closing Excel Online

Remember that Excel Online is constantly saving your workbook, so you do not have to worry about losing data when closing Excel Online, and you do not have to manually save it either. So, once you have finished your work, close the browser tab (or browser) in which Excel Online is open.

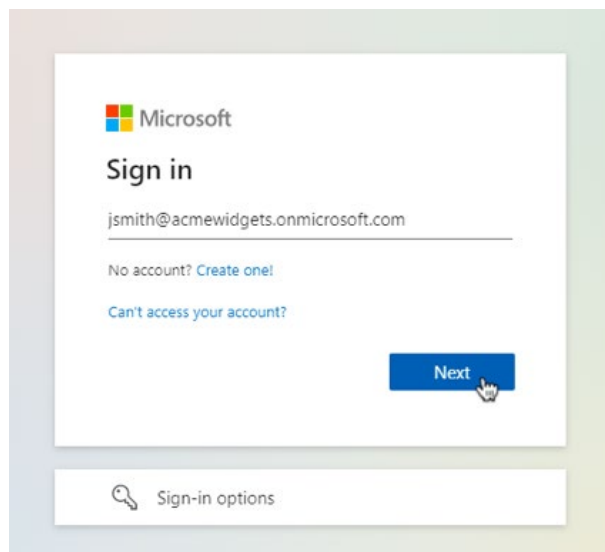
Activity 1-1: Getting Started with Excel Online

In this activity, you will launch Excel Online and explore its interface.

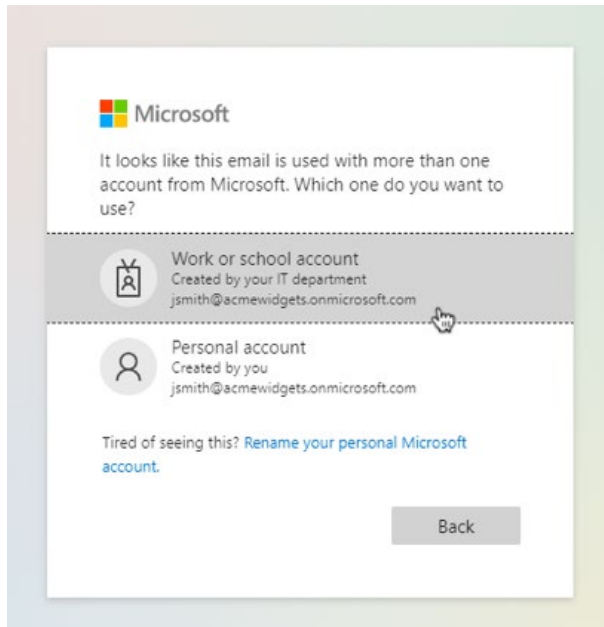
1. To begin, turn on and log into your computer. Open Microsoft Edge and navigate to <https://login.microsoftonline.com>:



2. Enter your Microsoft account name and click **Next**:

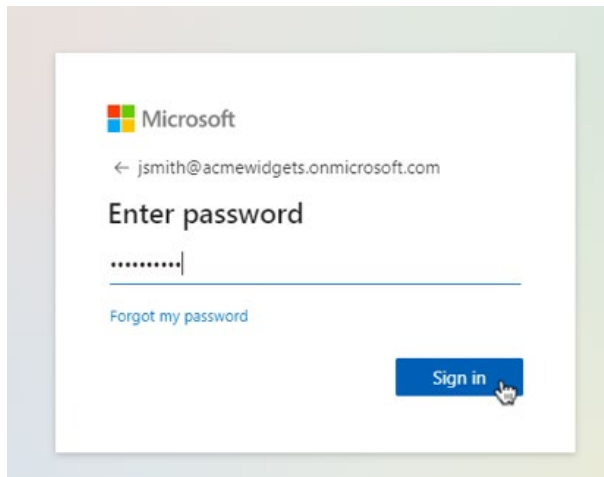


3. If prompted, choose the sub-account to sign in with:

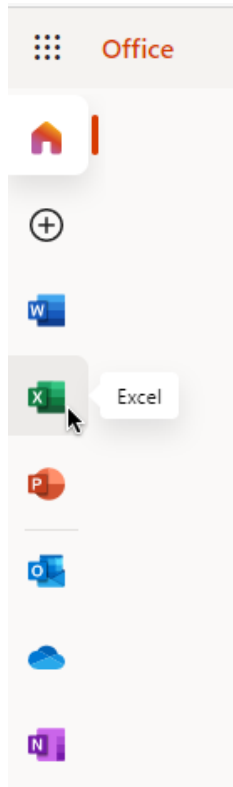


(If you do not see this prompt, skip to the next step.)

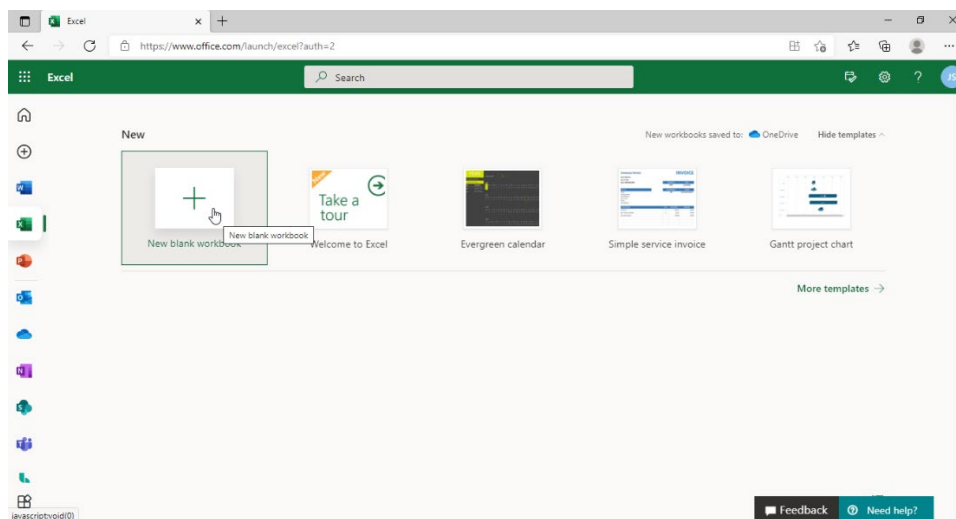
4. Finally, enter your password and click **Sign In**:



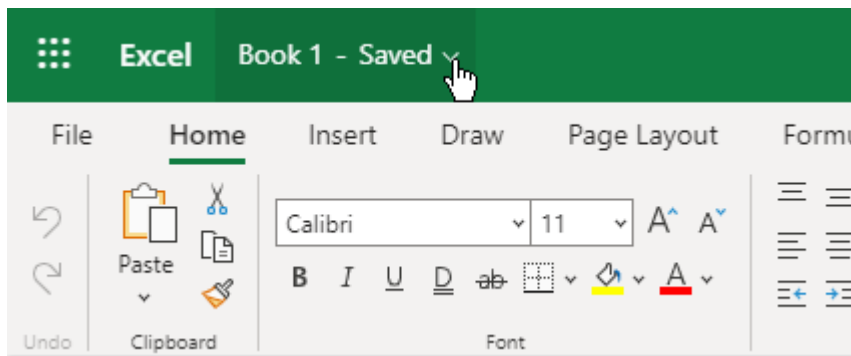
5. On the Microsoft Office Home Page, click **Excel**:



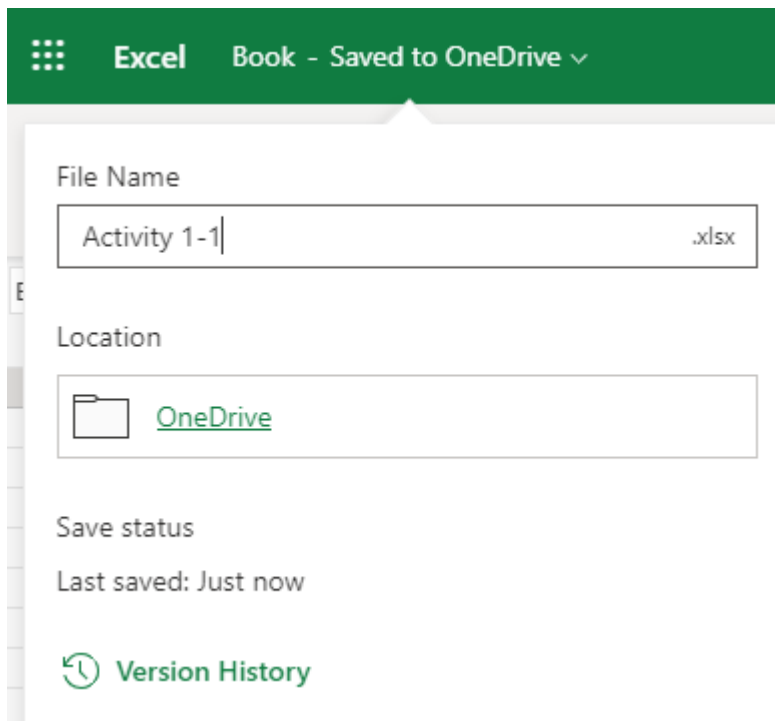
6. The Excel Online start screen will now be displayed. Click the **New blank workbook** thumbnail:



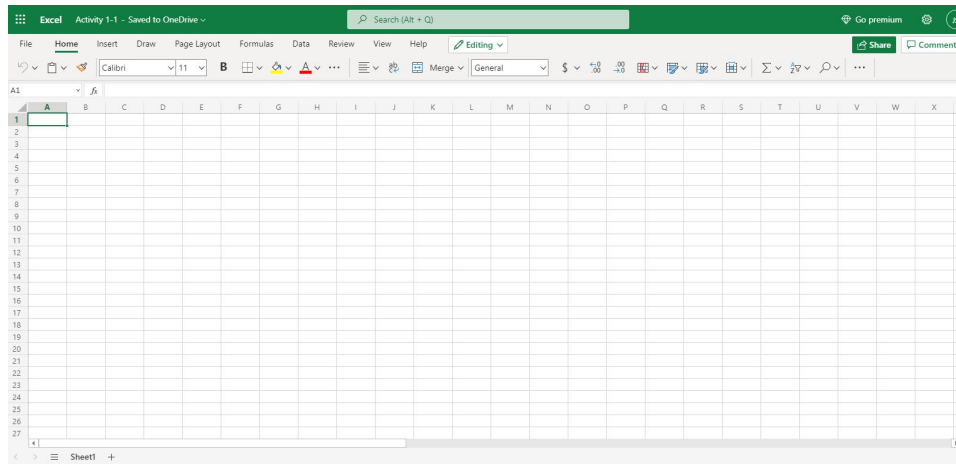
7. By default, this workbook will be titled “Book”. Let’s change this by clicking on the title:



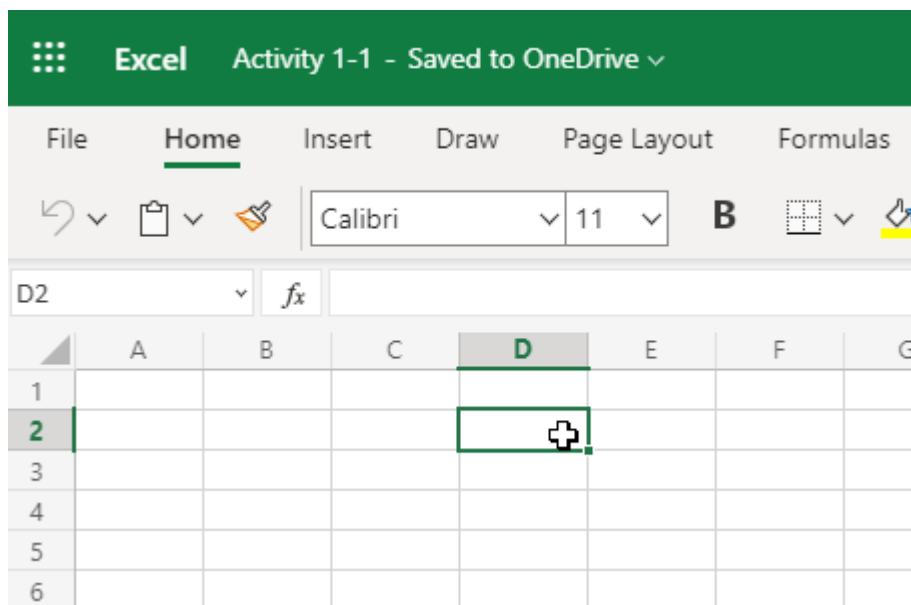
8. A dropdown menu will open. Under the **File Name** field, replace the existing text by typing “**Activity 1-1**”:



9. Then, click inside the working area of the workbook to close the menu:

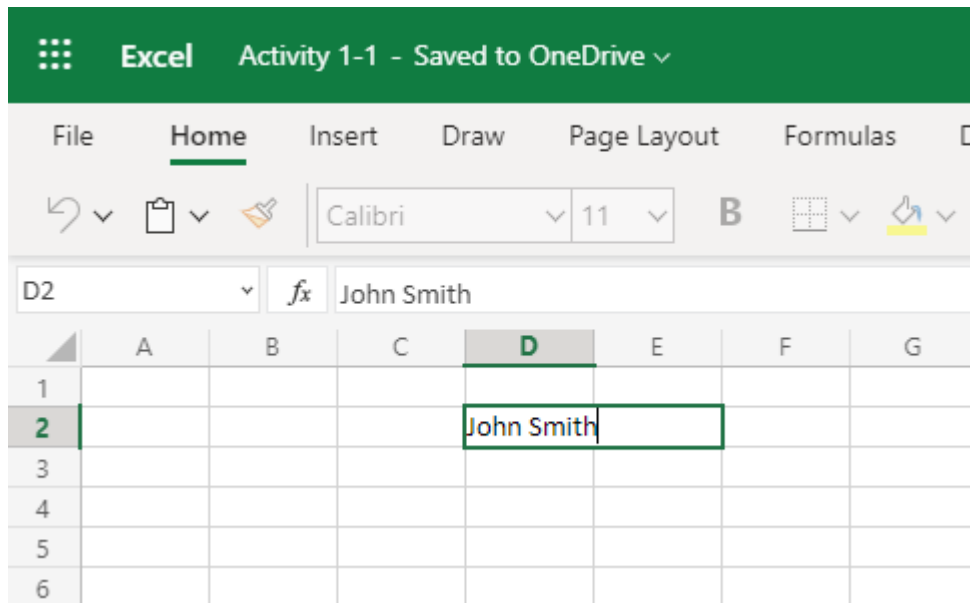


10. Now, click cell D2 to select it:



(Remember, this is the location where Row 2 and Column D intersect.)

11. Type your name and press **Enter** to commit it to the cell:



12. This activity is now complete. Close the Excel browser tab.

TOPIC B: Getting to Know Excel

Before we dive further into Excel's features, let's take a moment to learn about some Excel terminology and how to navigate in the app.

Topic Objectives

In this session, you will learn:

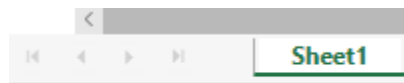
- What spreadsheets, worksheet, and workbooks are
- How to describe columns, rows, cells, ranges, and formulas
- How to navigate in Excel

What are Spreadsheets, Worksheets, and Workbooks?

Spreadsheets are paper or digital workbooks that are typically used to store, sort, and work with data. This data, while most often numerical, can also include text, shapes, and pictures. Spreadsheets consist of intersecting **rows** and **columns** that form **cells**, which contain the data.

Worksheets are a digital form of spreadsheets. Typically, worksheets display columns with alphabetical headers and rows with numerical ones.

A **workbook** is a collection of one or more worksheets. By default, new blank workbooks only include one worksheet, but you can add others if needed:



If the workbook that you are using includes more than one worksheet, you can switch between them by clicking the tabs. The name of the worksheet that you are presently working with will be in bold type on a white background. In the previous image, Sheet1 is currently active.

What are Columns, Rows, Cells, and Ranges?

Columns, rows, and cells make up the fundamental components of a worksheet. A **column** is a vertical series of adjacent cells from top to bottom. A **row** is a horizontal series of cells from left to right. A **cell** describes the intersection of a row and column:

	A	B	C	D	E
1			Column		
2					
3	Row		Cell		

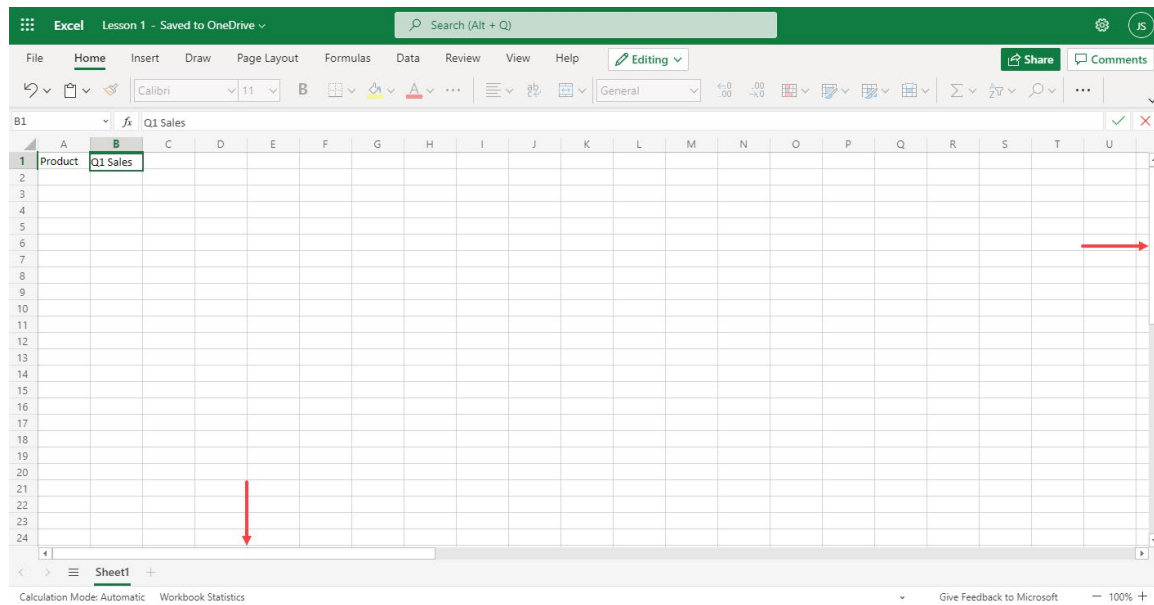
Each column has an index letter. Since there are only 26 letters, and there can be far more than 26 columns on a spreadsheet, the columns after column Z are indexed by the letters AA, AB, AC, and so on until the last column (up to XFD, over 16,000). Each row has an index number, from 1 through 1048576. Each cell is given a name in the “ColumnRow” format, with the top left cell referenced as A1. (In the example above, the word “cell” is at C3.)

The **active cell** is the name given to the cell that is currently selected.

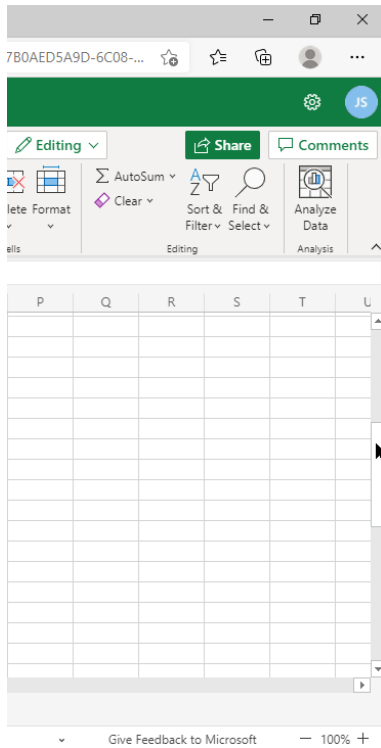
A **cell range** (or simply “range”) is defined as a series or block of adjacent cells. Unlike the desktop version of Excel, Excel Online does not allow you to formally define ranges.

Navigating in Excel

You will find scroll bars on the right and bottom sides of Excel workbooks:



To view a different part of the current worksheet, click and drag the scroll bar:



Keyboard Navigation Options

Sometimes the keyboard can be an even quicker way to navigate through worksheets.

Below are some common keyboard shortcuts that you may find useful:

Move one cell in any direction	Up, down, left, right arrow keys
Go to column A	Home
Return to cell A1	Ctrl + Home
Scroll up or down by one screen	Page Up or Page Down
Move one cell to the right	Tab
Move one cell to the left	Shift + Tab

Excel Formulas

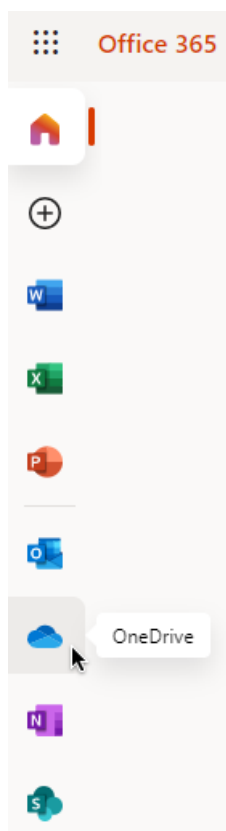
When cells contain numerical data, you can perform mathematical operations on the cell content using **formulas** and **functions**. The results of these operations will be shown in the

cell that contains the formula. Formulas can be simple, like adding two cell values, or quite complex, involving multiple mathematical operations.

Activity 1-2: Getting to Know Excel

You have been given a spreadsheet that requires a basic formula to calculate the total sales based upon the number of products that were sold. You will use the tools covered in this topic to complete this task.

1. To begin, open Microsoft Edge and log into Office 365. (Refer back to Activity 1-1 if you need help.)
2. Click the **OneDrive** icon on the Microsoft Office Home Page:



3. Click this course's Exercise Files folder to view its contents:

The screenshot shows the OneDrive interface with a search bar at the top. Below the search bar are buttons for '+ New', 'Upload', 'Sync', and 'Automate'. The 'My files' section contains a table of files and folders:

Name	Modified	Modified By	File size
Excel 365_Online_Exercise Files	4 minutes ago	John Smith	4 items
PowerPoint Online Excel...	July 25	John Smith	4 items

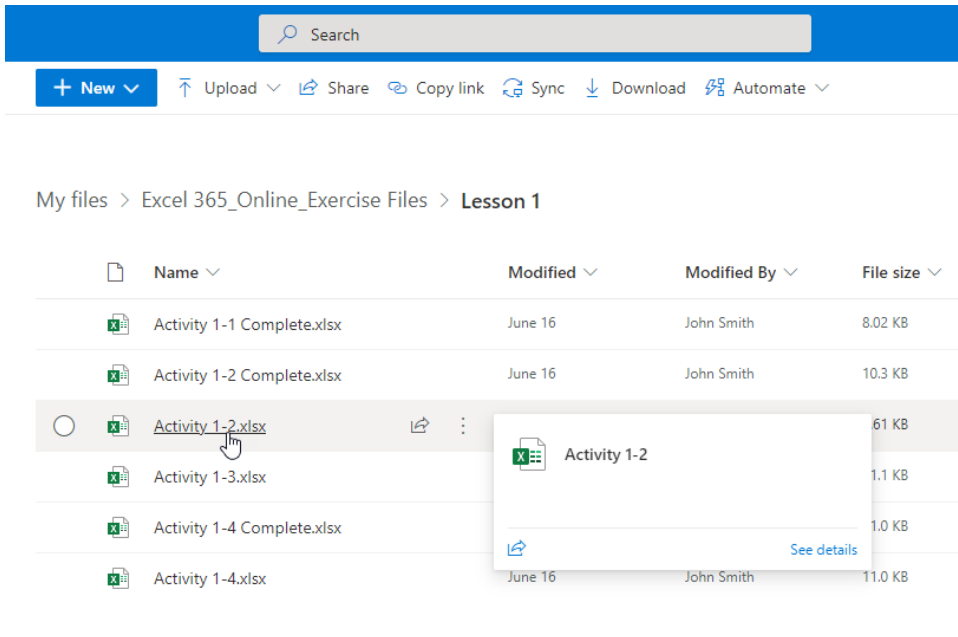
(You may notice that the file we created in the last activity is also listed here.)

4. Click the Lesson 1 folder:

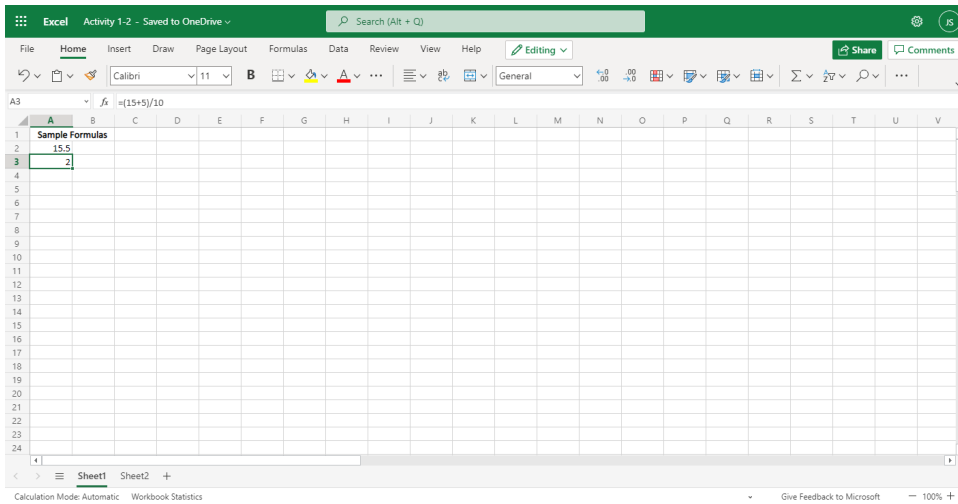
The screenshot shows the OneDrive interface with a search bar at the top. Below the search bar are buttons for '+ New', 'Upload', 'Share', 'Copy link', 'Sync', 'Download', and 'Automate'. The 'My files > Excel 365_Online_Exercise Files' section contains a table of folders:

Name	Modified	Modified By
Lesson 1	3 minutes ago	John Smith
Lesson 2	3 minutes ago	John Smith
Lesson 3	3 minutes ago	John Smith
Lesson 4	3 minutes ago	John Smith
Lesson 5	3 minutes ago	John Smith
Lesson 6	3 minutes ago	John Smith
Lesson 7	3 minutes ago	John Smith

- 5. Click "Activity 1-2" to open it:



- 6. The workbook will now open:



7. Ensure that Sheet1 is displayed. Cells A2 and A3 in this sheet have very similar formulas but display very different results. Click each cell and look in the formula bar to find the difference:

fx		=15+5/10		fx		=(15+5)/10		
	A	B		A	B		B	
1	Sample Formulas		1	Sample Formulas		1	Sample Formulas	
2	15.5		2	15.5		3	2	
3			3			4		
4			4					

8. As you can see, the parentheses completely change the result of this formula. Let's move to Sheet2 by clicking its worksheet tab:

8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

Calculation Mode: Automatic Workbook Statistics

9. This sheet contains a basic table with a few formulas calculating the data. Click cell C2 to see how it is calculated:

fx		=A2*B2			
	A	B	C	D	
1	Quantity Sold	Unit Price	Total Sales		
2	5	\$ 10.00	\$ 50.00		
3	19	\$ 7.00	\$ 133.00		
4	11	\$ 18.00			
5				Grand Total	

10. Click cell C3 to see how it is calculated:

fx =19*7				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00		
5				Grand Total

Which method do you think is better?

11. Use the preferred method to calculate row 4. Do not forget to press **Enter** after inputting the formula:

fx =A4*B4				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00	=A4*B4	
5				Grand Total

12. Now, click in cell C5 and type: =SUM(C2,C3,C4):

fx =SUM(C2,C3,C4)				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00	\$ 198.00	
5			=SUM(C2,C3,C4)	

13. Press **Enter** to calculate the formula:

fx =SUM(C2,C3,C4)				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00	\$ 198.00	
5			\$ 381.00	Grand Total

- 14.** Close the Excel Online browser tab to complete this activity.

TOPIC C: Managing Workbooks

In the last section, you became familiar with the Excel Online interface. In this topic, we will look at the basic options for managing those workbooks.

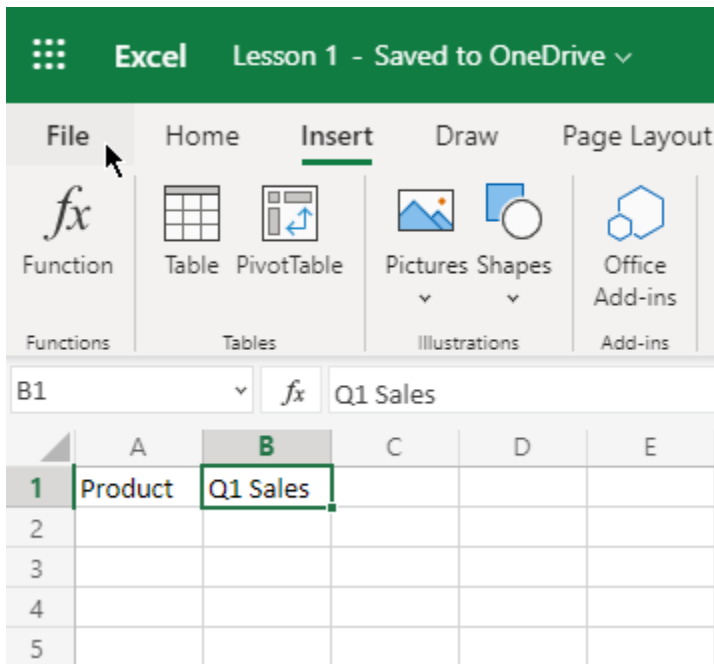
Topic Objectives

In this session, you will learn how to:

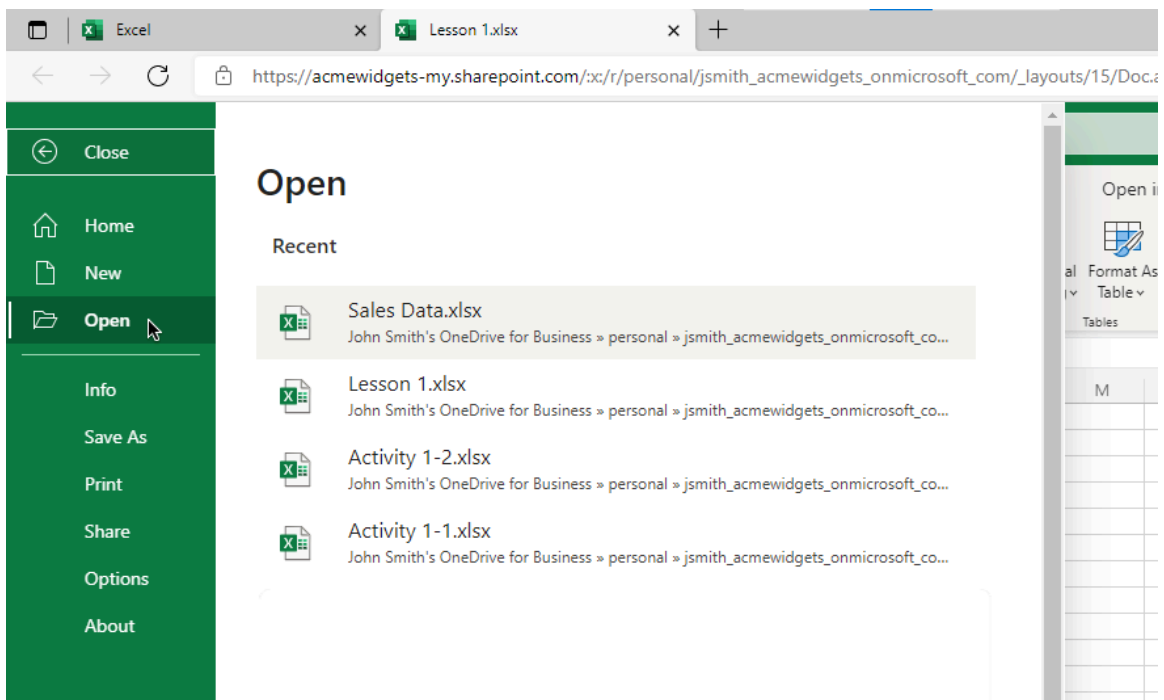
- Open, save, share, and print workbooks
- Edit a workbook in the desktop version of Microsoft Excel
- Use the Accessibility Checker

Opening a Workbook

To open a workbook in Excel Online, click the **File** tab:

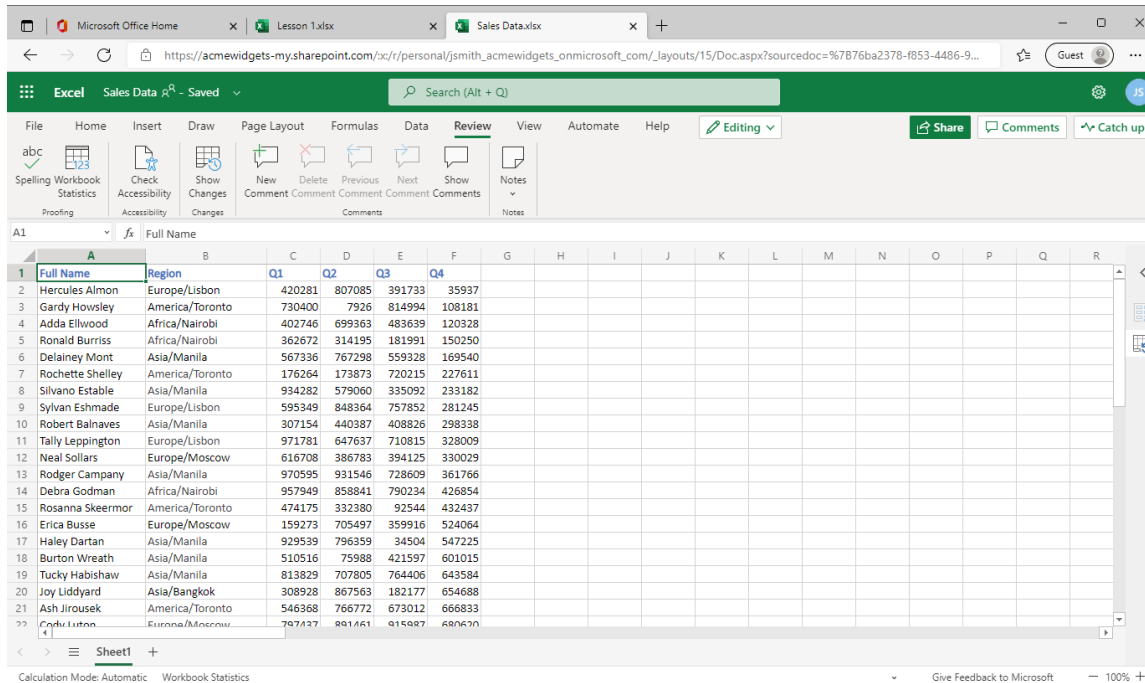


Click **Open** to display the **Open** category. Click the workbook you want to open:



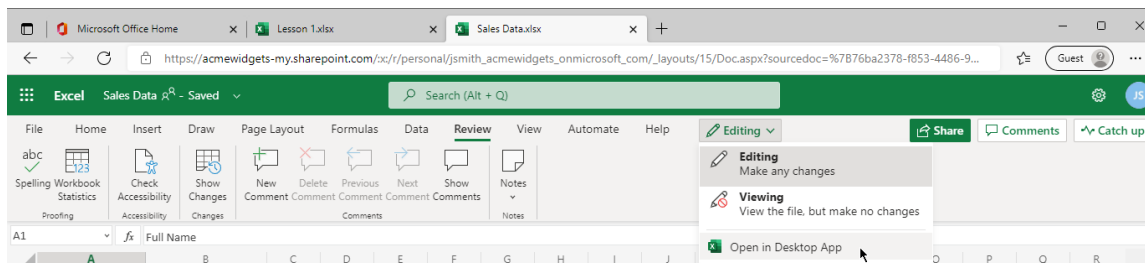
(Note that the workbook must be stored online in your Microsoft account to be able to open it in Excel Online.)

The workbook will open in a new tab:



Editing Your Workbook in Excel Desktop

To edit the current workbook in the desktop version of Excel, click **Editing** → **Open in Desktop App**:

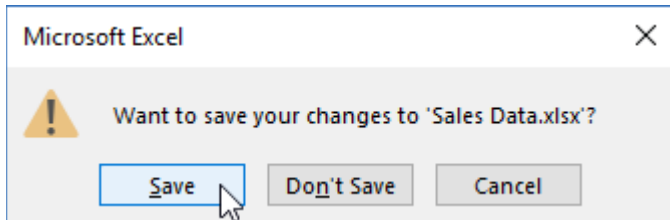


Excel will open on your desktop and download the current workbook to your computer. You may need to click **Enable Editing** to continue.

Even though you are working with the desktop version of Excel, any changes that you make to this file will be automatically synced to the online file. This way you can have the full

functionality of Excel for desktop, combined with the versatility and portability of Excel Online without having to worry about multiple versions of the same file.

When you are finished working with the desktop version of Excel, close the program. Save your changes if prompted:



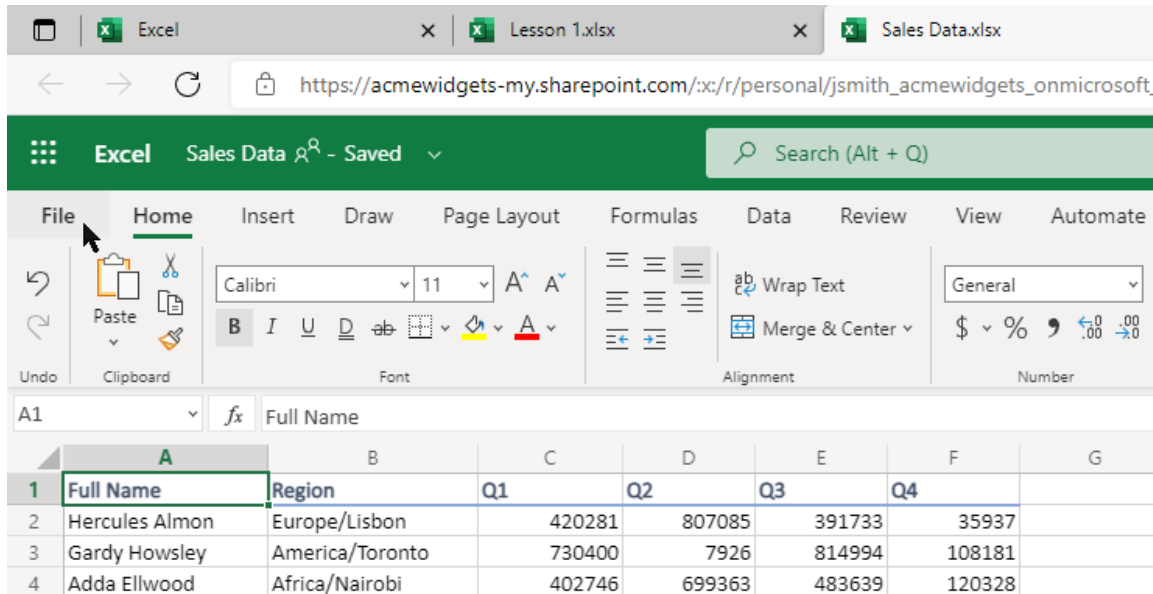
Then, return to your internet browser. The workbook will now be updated:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Full Name	Region	Q1	Q2	Q3	Q4												
2	Hercules Almon	Europe/Lisbon	420281	807085	391733	35937												
3	Gardy Howsley	America/Toronto	730400	7926	814994	108181												
4	Adda Ellwood	Africa/Nairobi	402746	699363	483639	120328												
5	Ronald Burriss	Africa/Nairobi	362672	314195	181991	150250												
6	Delainey Mont	Asia/Manila	567336	767298	559328	169540												
7	Rochette Shelley	America/Toronto	176264	173873	720215	227611												
8	Silvano Estable	Asia/Manila	934282	579060	335092	233182												
9	Sylvan Eshmade	Europe/Lisbon	595349	848364	757852	281245												
10	Robert Balnaves	Asia/Manila	307154	440387	408826	298338												
11	Tally Leppington	Europe/Lisbon	971781	647637	710815	328009												
12	Neal Sollars	Europe/Moscow	616708	386783	394125	330029												
13	Rodger Campany	Asia/Manila	970595	931546	728609	361766												
14	Debra Godman	Africa/Nairobi	957949	858841	790234	426854												
15	Rosanna Skeermor	America/Toronto	474175	332380	92544	432437												
16	Erica Busse	Europe/Moscow	159273	705497	359916	524064												
17	Haley Dartan	Asia/Manila	929539	796359	34504	547225												
18	Burton Wreath	Asia/Manila	510516	75988	421597	601015												
19	Drake Becom	Europe/Warsaw	716090	522192	47961	972959												
20	Ebonee Louch	Asia/Bangkok	366306	115862	350344	884357												
21	Galvin Freiberg	Europe/Warsaw	235049	880195	60264	733404												

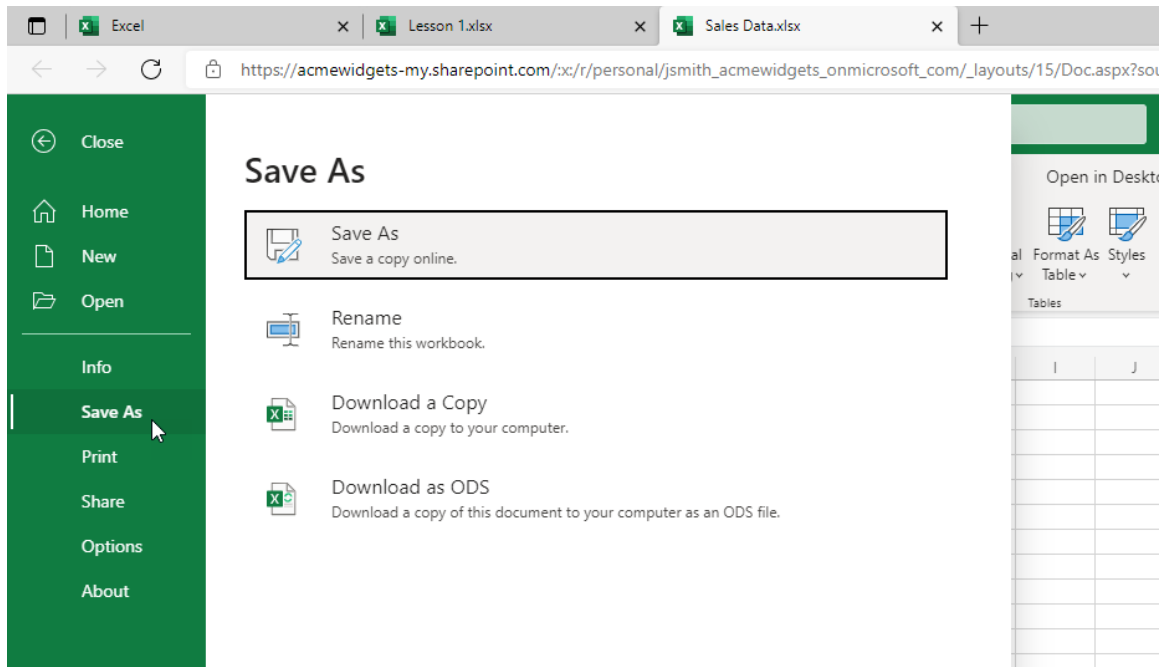
(If prompted, click **Resume editing here.**)

Accessing Save Options

Although Excel Online is designed for workbooks in the cloud, you do have access to other save options. To start, click the **File** tab:



Now, click the **Save As** category:

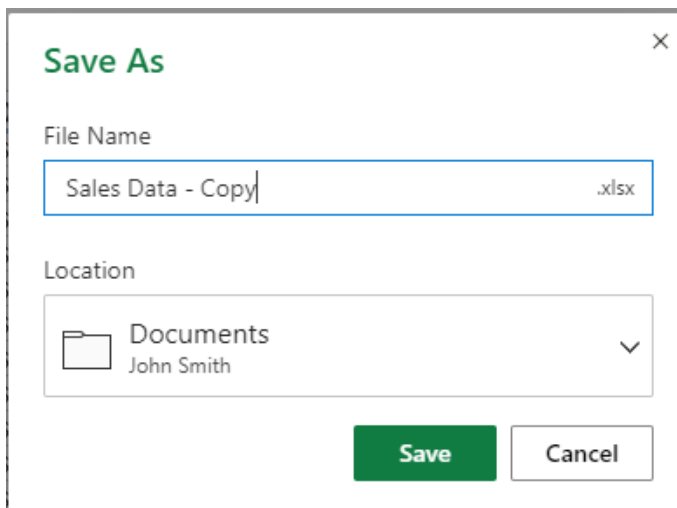


You will see a variety of save options in the right pane of the menu. Click the desired option to open the appropriate dialog box, where you can customize various save options and complete the process.

Let's look at the dialog box for each command.

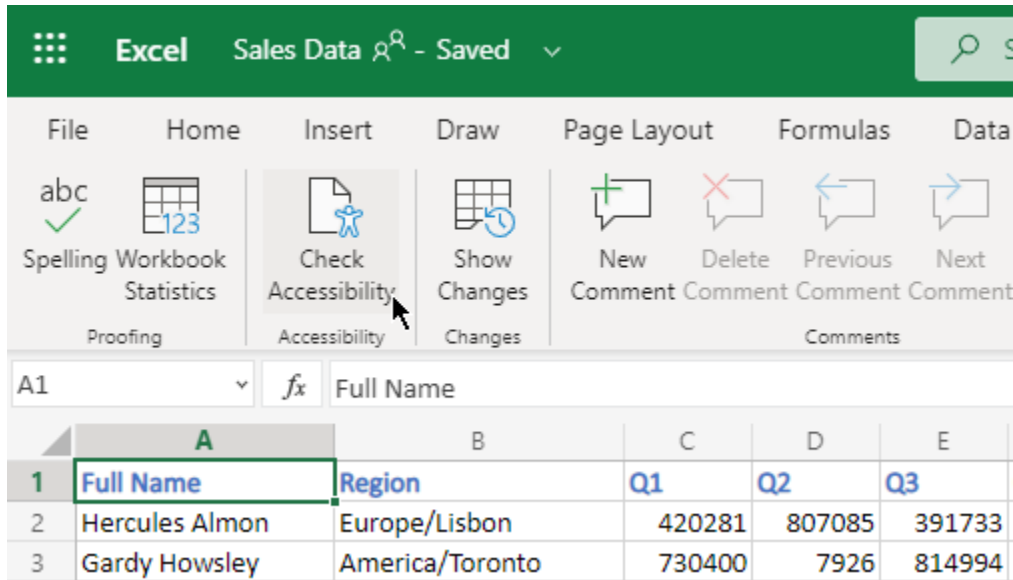
Save As

Opens the Save As dialog box, where you can choose the online location where you want to save the workbook and change the file name. Click **Save** to complete the process:

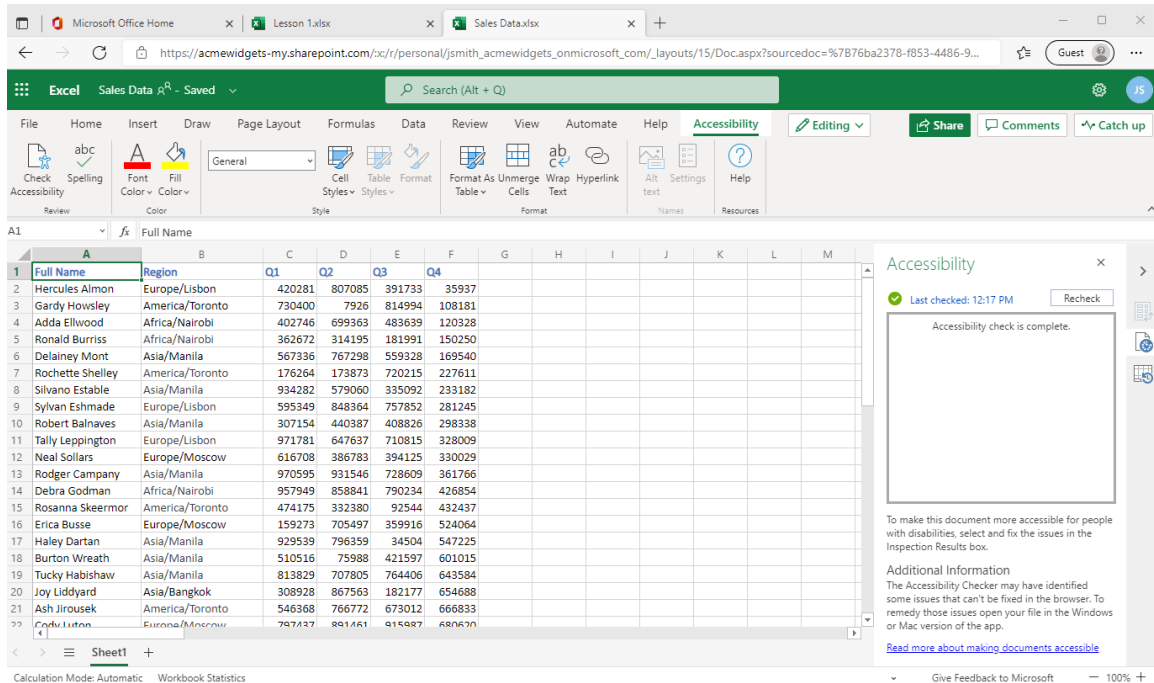


Using the Accessibility Checker

To check your workbook for possible accessibility issues, click **Review** → **Check Accessibility**:



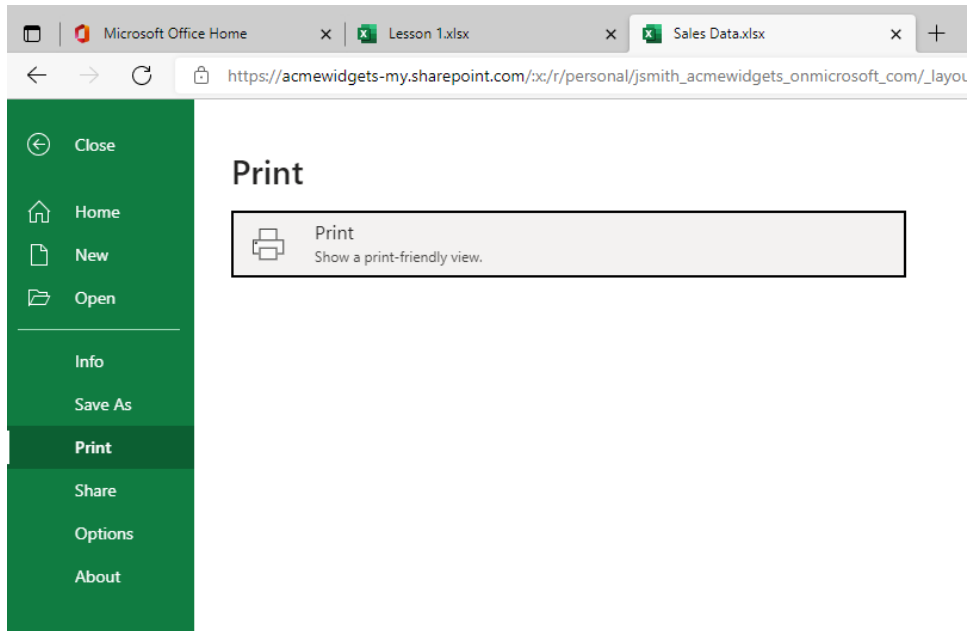
The **Accessibility** task pane will then be displayed on the right-hand side of your screen:



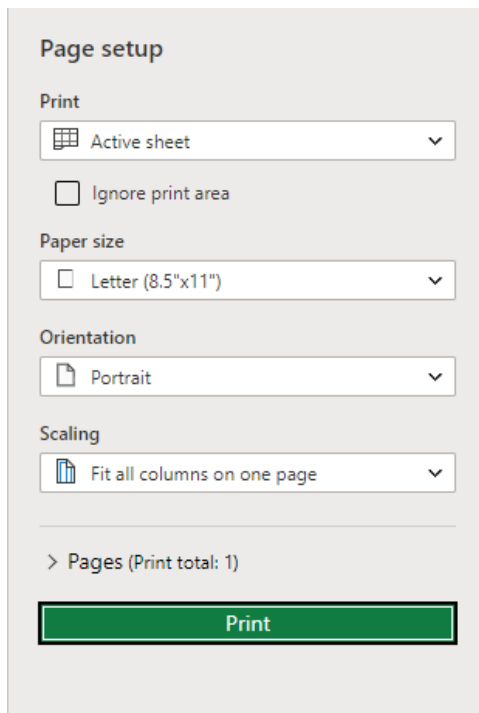
Its contents are divided into three sections that list different types of problems. Click any item to go to that workbook object and resolve the problem.

Printing a Workbook

To print a workbook from Excel Online, click **File** → **Print** → **Print**, or press **Ctrl + P**:



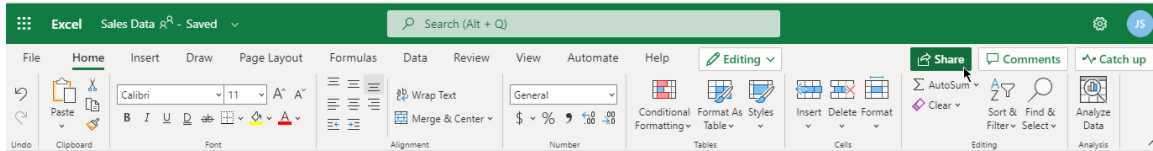
The Print Settings dialog box will open, where you can set various print options:



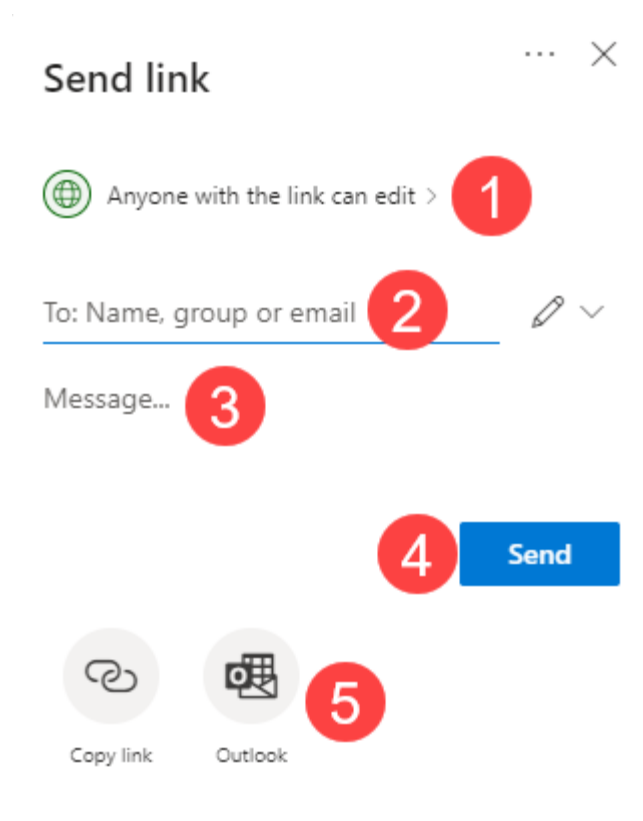
Once you click **Print** to send the workbook to the printer (or click **Cancel** to stop the process), you will return to the workbook.

Sharing a Workbook

Since Excel Online workbooks are always saved to a cloud-based location, it is easy to share workbooks with others. To start, click **File** → **Share** → **Share**, or click the **Share** icon in the upper toolbar:



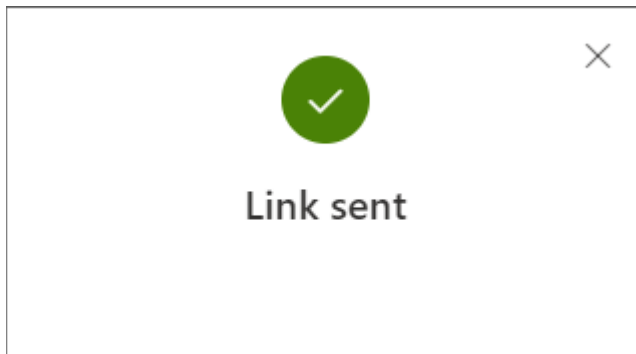
The Send link dialog box will open:



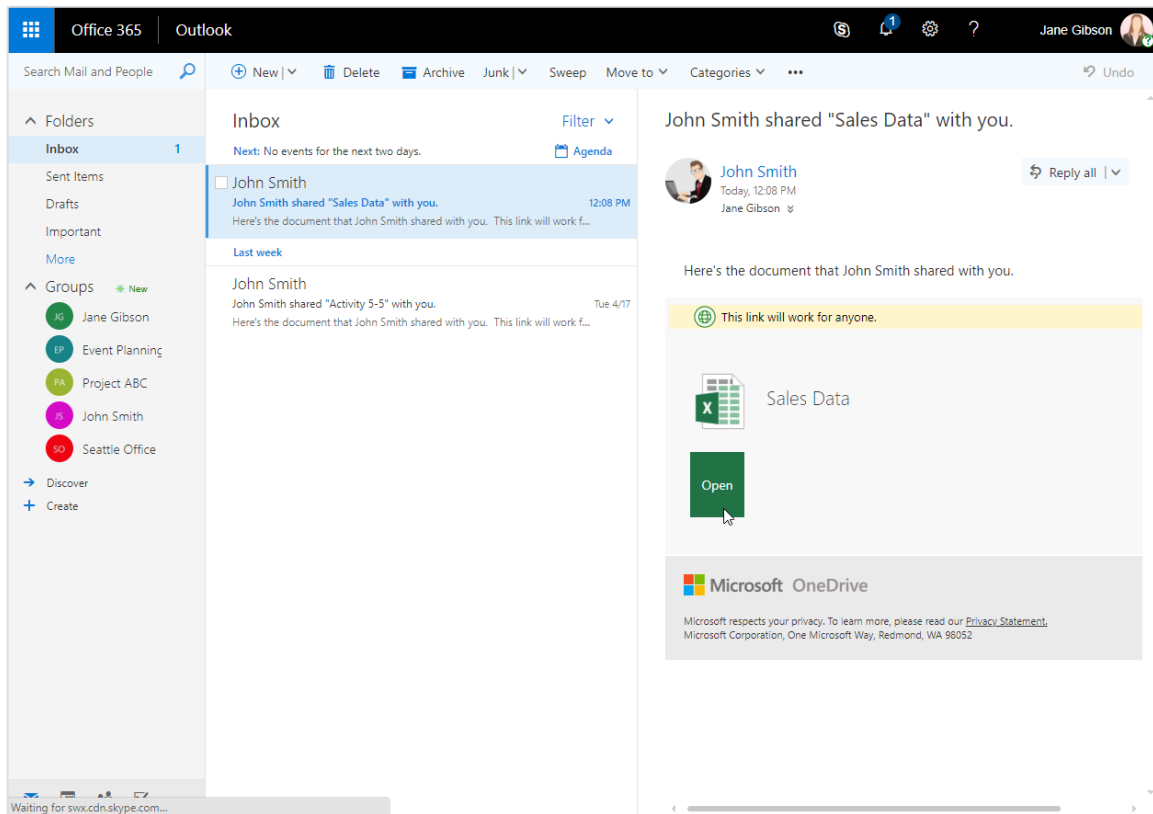
At the **top of the dialog box (1)**, there is a section that shows which access level users will have to the file. (Clicking this section will open a separate dialog box with options to choose a group, change editing permissions, and set an expiration date.) Advanced permissions can be managed by clicking the **ellipses (...)** button at the top of the menu.

In the main part of the dialog box, you can enter the **names, group names and/or email addresses (2)** of the people you want to share with, as well as the **message (3)** that will be sent to them. When you are ready, click **Send (4)**. (Notice that there are **additional options (5)**, at the bottom of the dialog box, such as copying a link or sending a message with a link via Microsoft Outlook.)

Once you have entered the necessary information, click **Send**. Then, you will receive a confirmation. Close this pop-up to return to Excel Online:



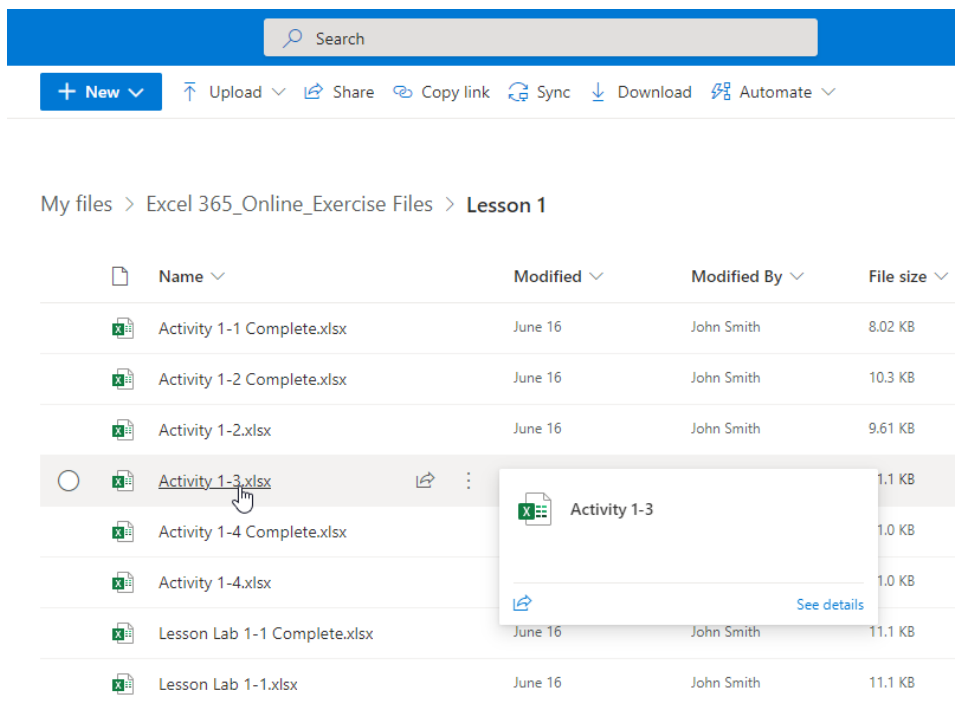
The recipient will receive a link via email. They can click **Open** to view the workbook in Excel Online:



Activity 1-3: Managing Workbooks

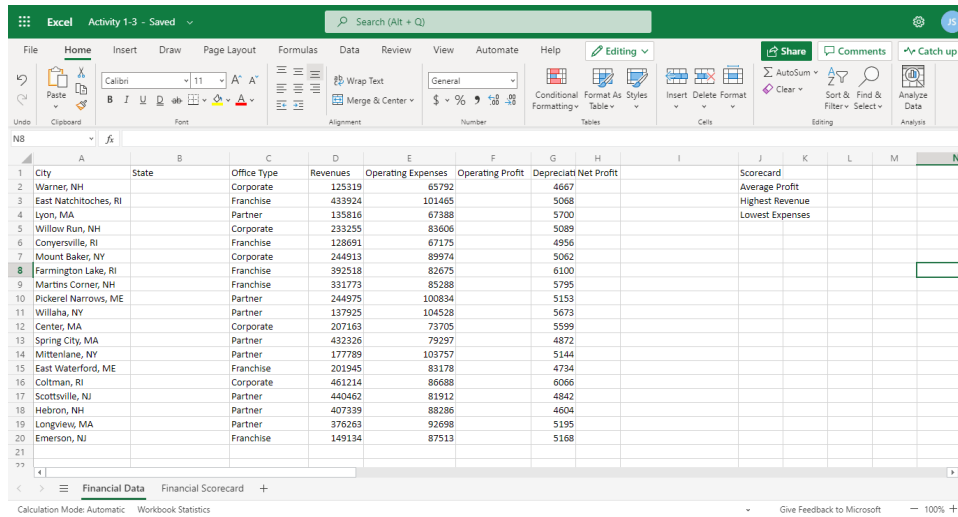
In this activity, you will open and export a workbook. Ensure your Exercise Files have been uploaded to OneDrive before starting this activity.

1. To begin, open Microsoft Edge and log into Office 365. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 1 of your Exercise Files folder on your OneDrive account. Open Activity 1-3:



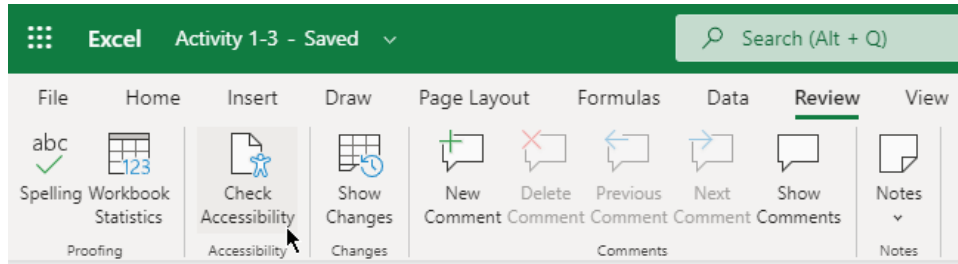
(Refer back to Activity 1-2 if you need help.)

3. The workbook will now open:

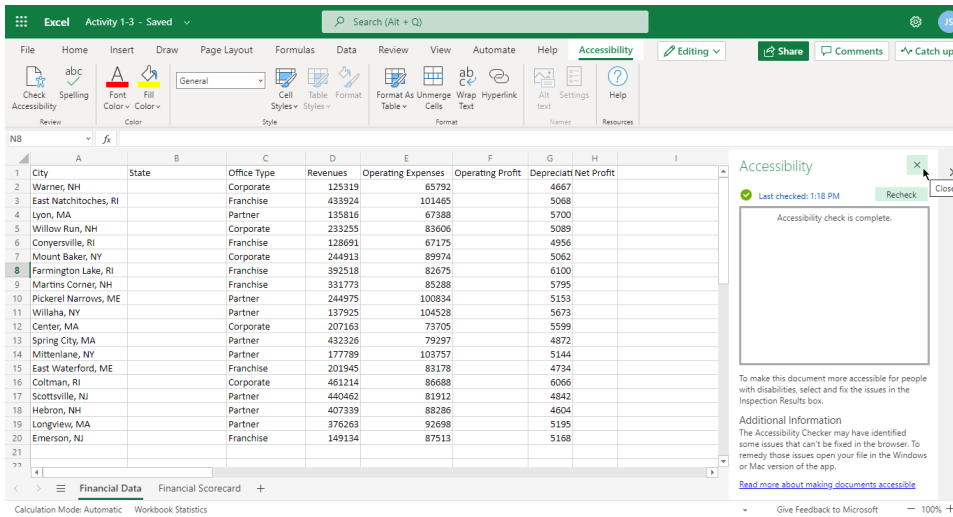


(If the document opens in Reading View, click **Edit Document**, then **Edit** to enter Editing View.)

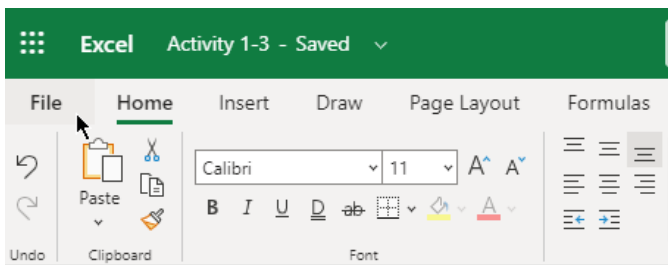
4. First, let's check the workbook for accessibility issues. Click the **Review** tab and click **Accessibility Checker**:



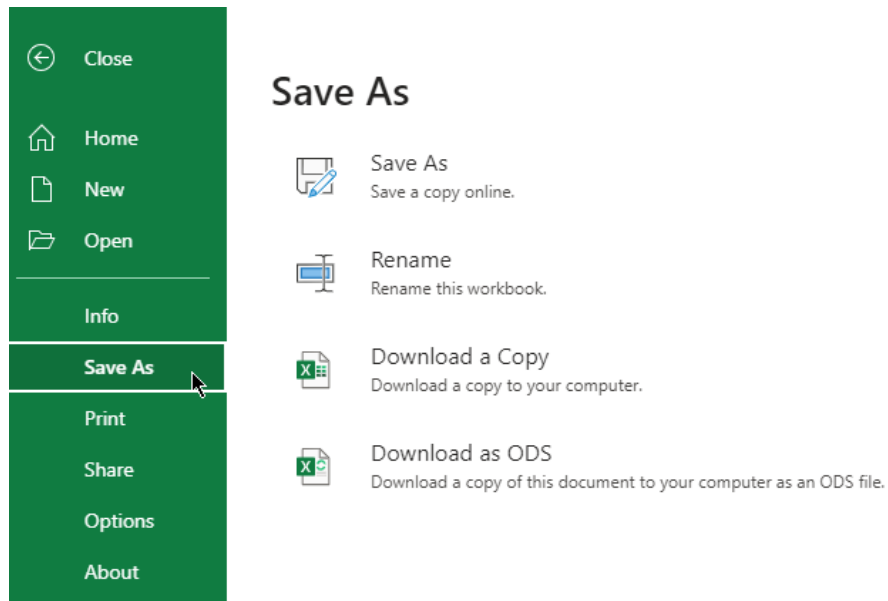
5. You should see that the workbook has no issues. Close the task pane:



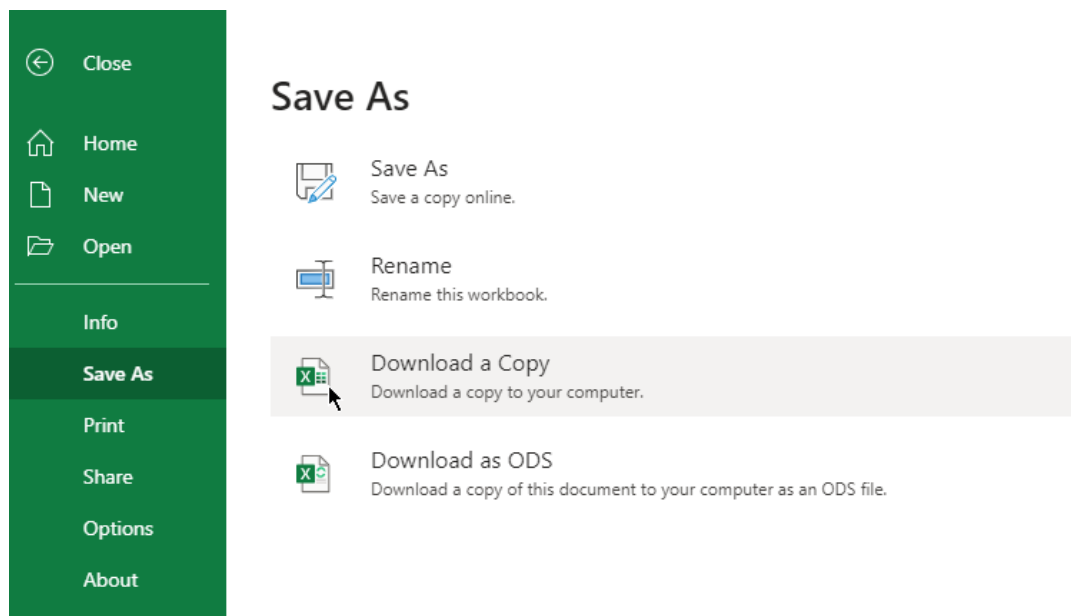
6. Now, let's download a copy of the workbook. Click the **File** tab:



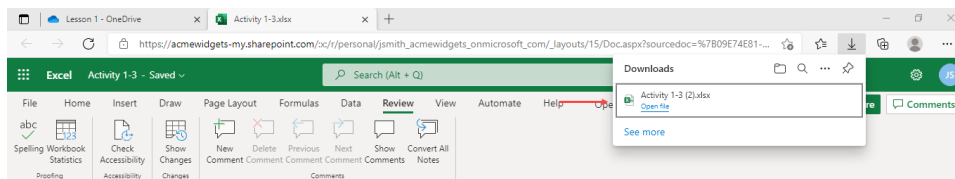
7. Click the **Save As** category:



8. Click the icon next to **Download a Copy**:



9. When you see confirmation that the file has finished downloading, close this browser tab to complete the activity:



TOPIC D: Getting Help in Excel Online

By now, you will have noticed that you can do a lot of things with Excel Online, and we have only scratched the surface. It is virtually impossible to memorize everything it offers, and its features are constantly changing. Luckily, Excel comes with a tool that allows you to find answers to your questions. You can also submit your feedback or suggestions about the features of Excel.

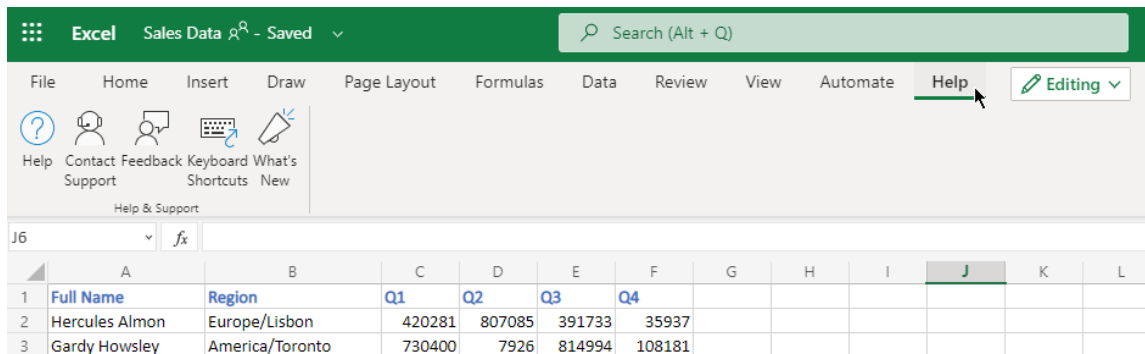
Topic Objectives

In this session, you will learn how to:

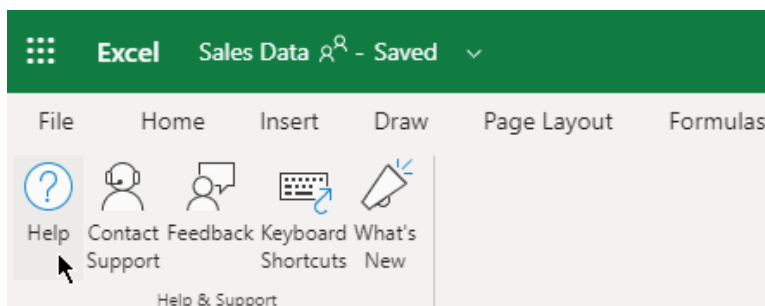
- Use the Help tab
- Give feedback about Microsoft Office

Using the Help tab

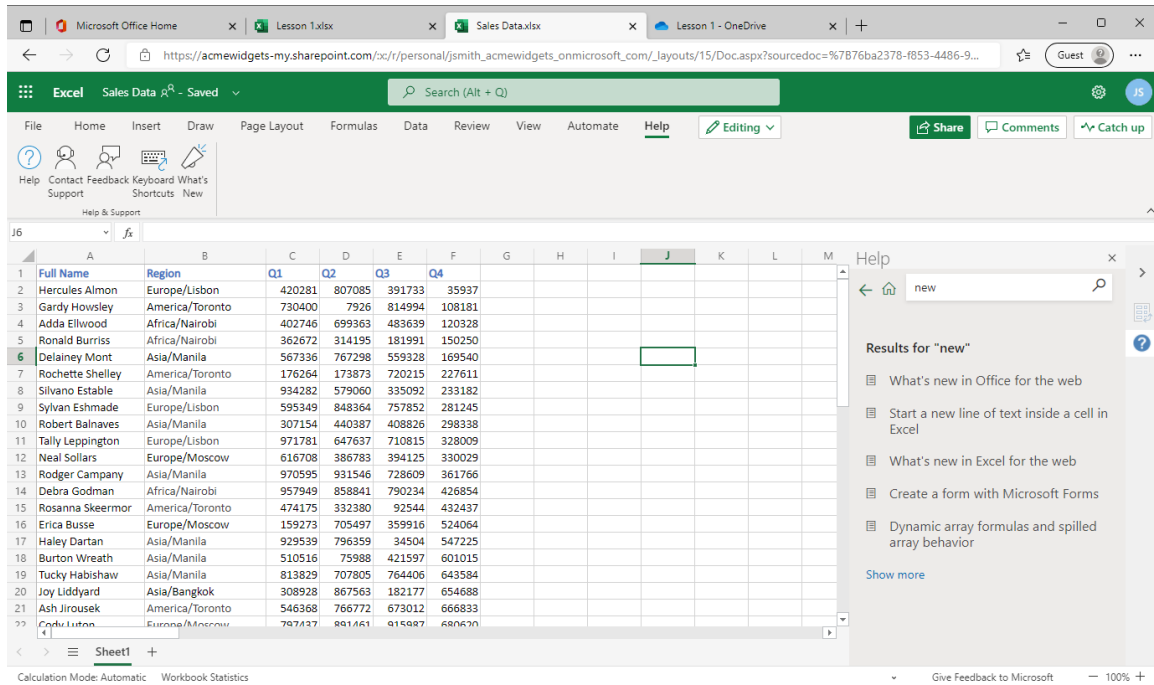
The **Help** tab contains a variety of help tools. Click **Help** to open the **Help** tab:



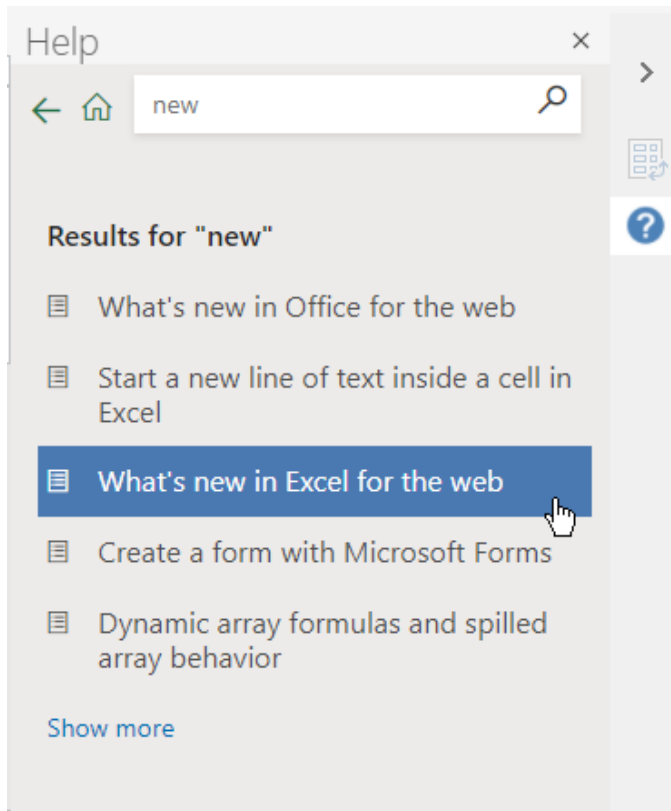
Then click **Help** to open the **Help** menu:



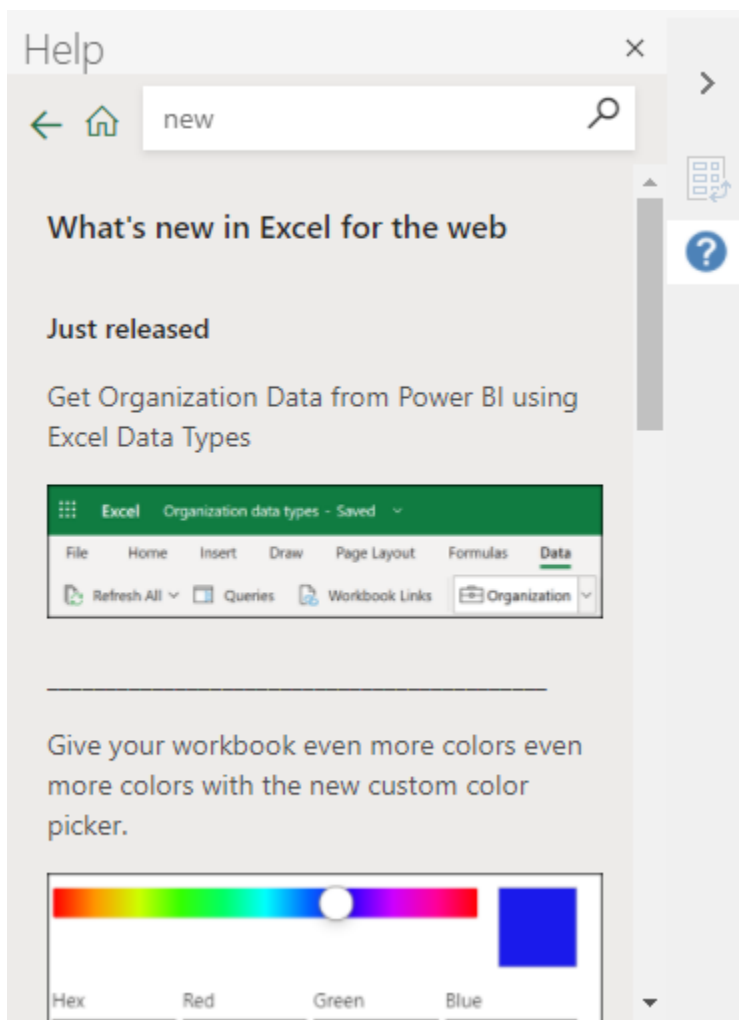
Now, using the search bar, you can search for help articles. You can perform a new search for help information by typing keywords into the search bar and pressing **Enter**. After a moment, any results Excel thinks are relevant will appear in a list:



Click one of the topics in that list to view more information about it:



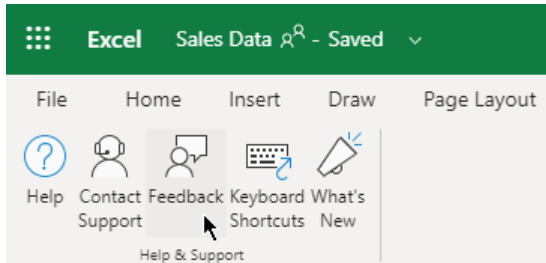
The help article will open:



Giving Feedback About Office

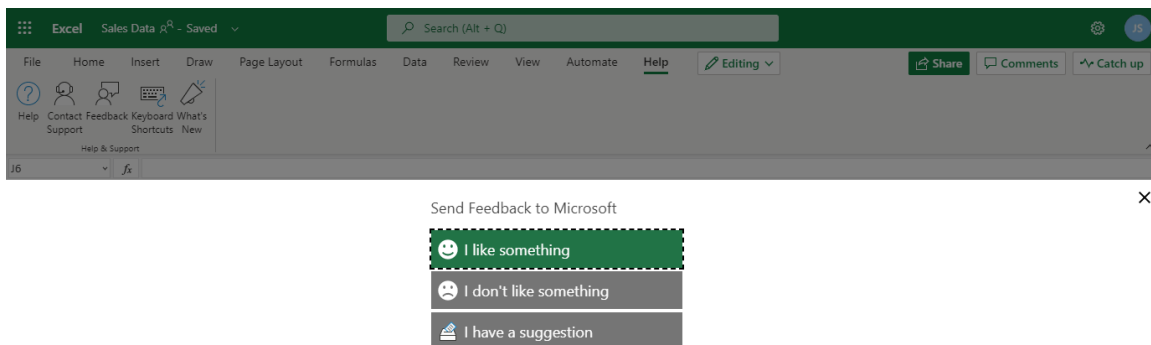
Microsoft gives users a way to submit positive or negative feedback about their products directly in PowerPoint Online.

To give feedback, click **Feedback** under the **Help** tab:




You can also click **Give Feedback to Microsoft** in the status bar.


Then, you can choose whether to submit feedback about something you like, something you do not like, or a suggestion:




Clicking on an option opens a text field where you can type your comment. Click **Submit** to finish:

Send Feedback to Microsoft

 I like something

 I don't like something

 I have a suggestion

What did you like?

Microsoft's help articles have allowed me to answer a number of questions about the Excel Online interface.

By pressing submit, your feedback will be used to improve Microsoft products and services. IT admins for your organization will be able to view and manage your feedback data. [Privacy Statement](#)

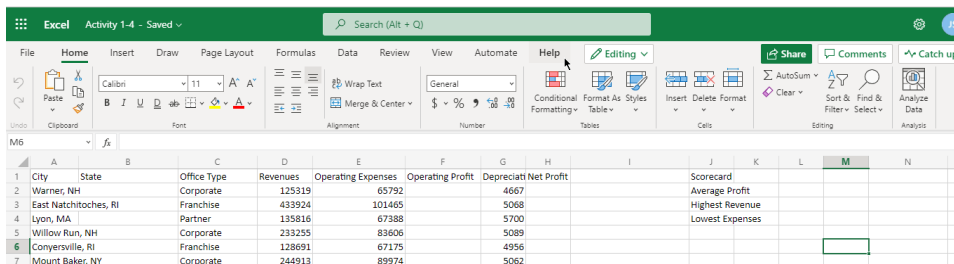
Cancel

Submit

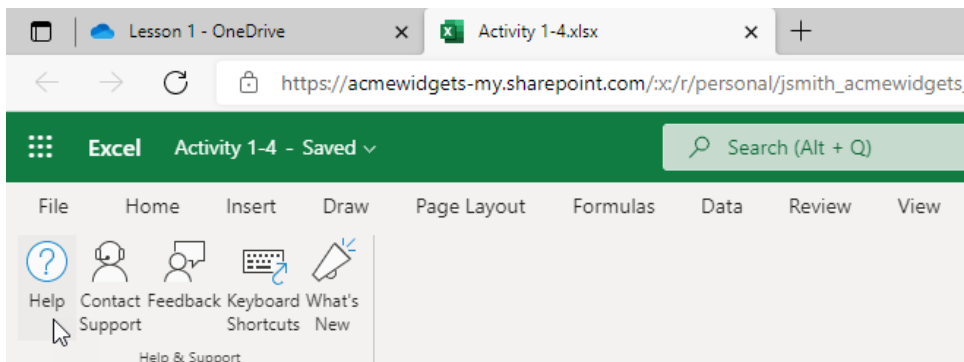
Activity 1-4: Getting Help in Excel Online

In this activity, you will explore Excel Online's help features.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 1-4 from OneDrive. (Refer back to Activity 1-2 and 1-3 if you need help.)
2. First, let's learn about some of Excel Online's newest features. To start, click the **Help** tab:



3. Then click **Help**:



4. A new sidebar menu will open. In the search field, type “new” and press Enter:

The screenshot shows the Microsoft Excel Online interface. The main area displays a spreadsheet with columns for City, State, Office Type, Revenues, Operating Expenses, Operating Profit, and Depreciated Net Profit. The right sidebar is open to the Help section, with a search field containing the text "new". Below the search field, a tutorial titled "Drop-down list tutorial (Beta)" is visible, showing a drop-down menu with options like "Diana", "Miranda", "Tony", "Patricia", and "Erang".

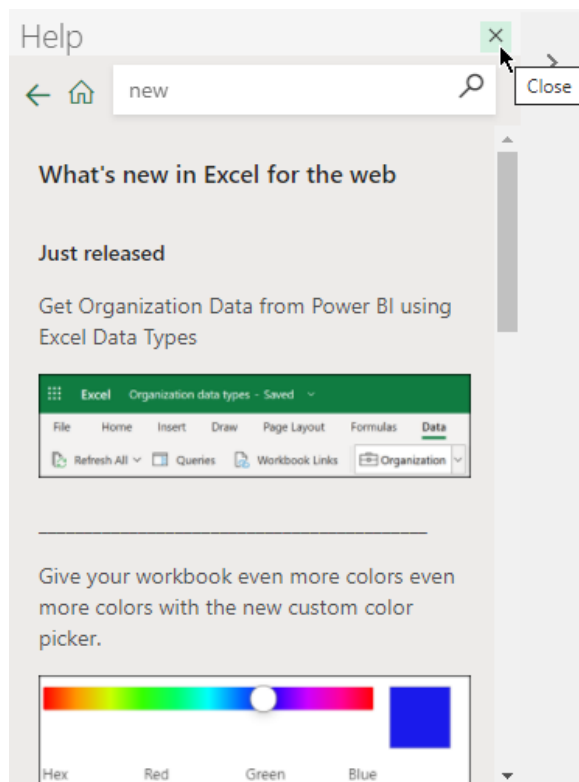
	A	B	C	D	E	F	G	H	I
	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated Net Profit		
1	Warner, NH		Corporate	125319	65792		4667		
2	East Natchitoches, RI		Franchise	433924	101465		5068		
3	Lyon, MA		Partner	135816	67388		5700		
4	Willow Run, NH		Corporate	232255	83606		5089		
5	Conyersville, RI		Franchise	128691	67175		4956		
6	Mount Baker, NY		Corporate	244913	89974		5062		
7	Farmington Lake, RI		Franchise	392518	82675		6100		
8	Martins Corner, NH		Franchise	331773	85288		5795		
9	Pickarel Narrows, ME		Partner	244975	100834		5153		
10	Willaha, NY		Partner	137925	104528		5673		
11	Center, MA		Corporate	207163	73705		3599		
12	Spring City, MA		Partner	432326	79297		4872		
13	Mittentane, NY		Partner	177789	103757		5144		
14	East Waterford, ME		Franchise	201945	83178		4734		
15	Coltman, RI		Corporate	461214	86688		6066		
16	Scottsville, NJ		Partner	440462	81912		4842		
17	Hebron, NH		Partner	407339	88286		4604		
18	Longview, MA		Partner	376263	92698		5195		
19	Emerson, NJ		Franchise	149134	87513		5168		

5. Click the “What’s new in Excel for the web” article:

The screenshot shows the Help sidebar search results for the query "new". The results are listed under the heading "Results for 'new'". The article "What's new in Excel for the web" is highlighted with a blue background and a mouse cursor pointing to it. Other results include "What's new in Office for the web", "Start a new line of text inside a cell in Excel", "MAP function", and "Create a form with Microsoft Forms". A "Show more" link is visible at the bottom of the list.

(If you do not see this topic, choose any other link on the page.)

6. Scroll through the article. When you are finished, close the menu:



7. Close this browser tab to complete this activity.

Summary

In this lesson, we learned about some of the terms used when working with Excel, and how to use the basic features of the Excel interface. We also learned how to create, view, navigate in, save, share, and print workbooks. We wrapped up the lesson with information on using Excel Online's help features.

Review Questions

- 1. Where can Excel Online open documents from?**
- 2. What command opens a menu that allows you to search for help articles in Excel Online?**
- 3. In Excel, what is a column and a row?**
- 4. True or False: Since Excel is a cloud-based application, you cannot save workbooks offline.**
- 5. How are cells typically referenced in Excel?**

LESSON 2: WORKING WITH DATA

Lesson Objectives

In this lesson you will learn how to:

- Use formulas and functions
- Work with data, rows, and columns
- Sort and filter data

TOPIC A: A Closer Look at Formulas

Now that we have learned about the Excel interface, it is time to learn about Excel formulas. We will start with the basics, including where and how to enter formulas in Excel.

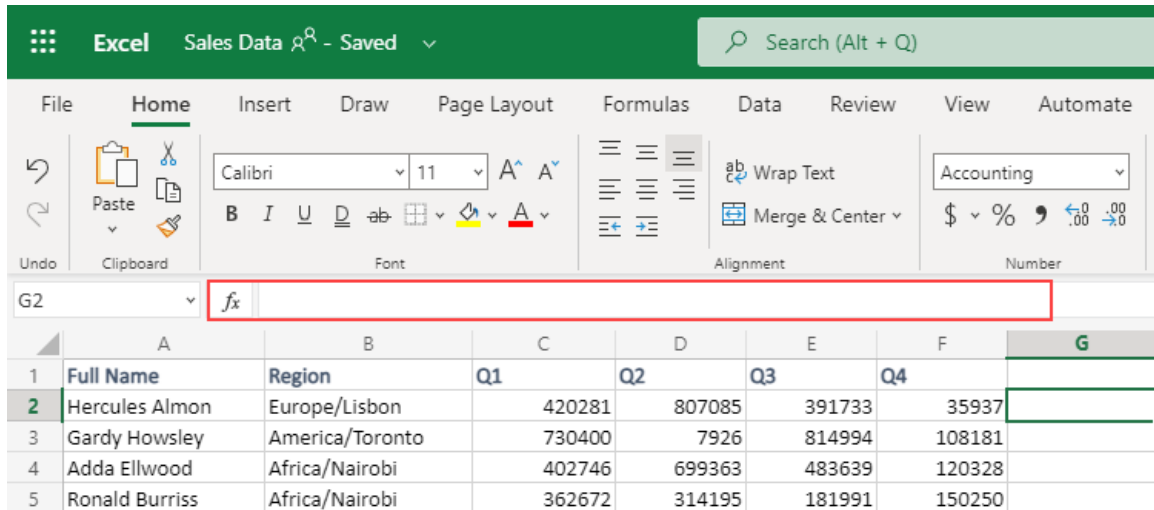
Topic Objectives

In this session, you will learn about:

- The formula bar
- The elements of an Excel formula
- Common mathematical operators and their order of operations
- Excel cell references

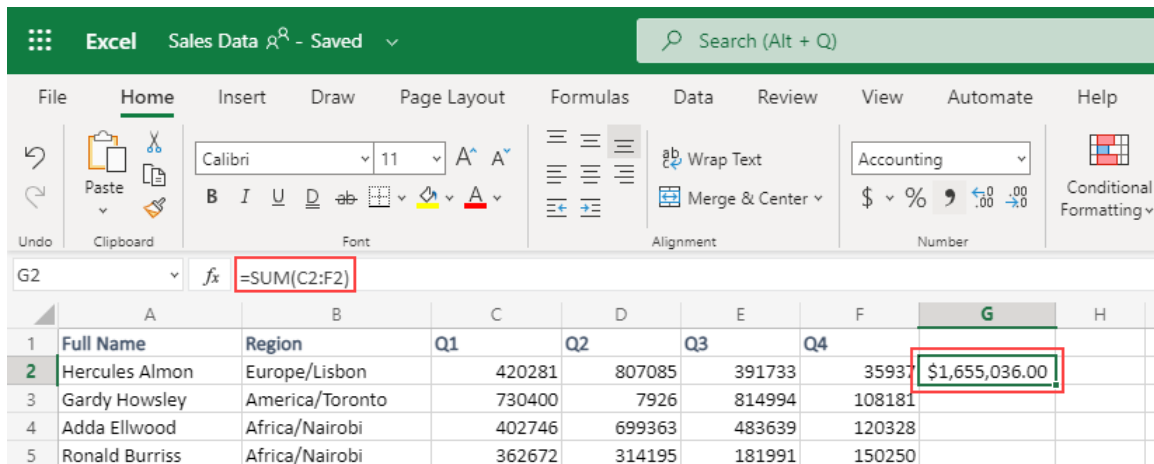
The Formula Bar

You can enter functions and formulas in the formula bar, just below the ribbon:



(The **fx** button on the left side of the formula bar will open the Insert Function dialog box, which we will discuss in the next lesson.)

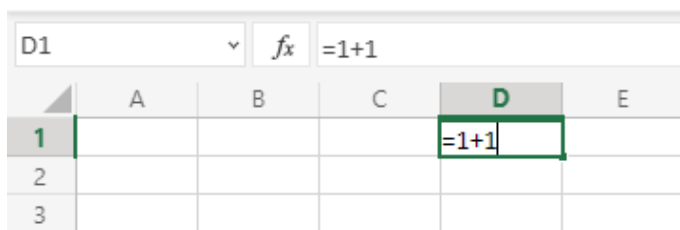
You can tell if a cell contains a formula by making it active. If there is a formula in the active cell, it will be shown in the formula bar. Here, the SUM function is being used to add data from cells C2 through to F2:



Elements of an Excel Formula

Here are some important things to note about formulas.

- Formulas are always preceded by an equals sign (=).
- Formulas can contain cell references (such as “A1”), numbers (such as “23”), or functions [such as “SUM(B2:B9)”].
- =A1+23, =d2-c2, and =B10+b11/C6 are all valid formulas; cell references are not case-sensitive.
- You can enter a formula by typing directly into a cell or into the formula bar:



- If you include a cell reference in a formula (like “=B3*6”), and that cell reference itself contains a second formula (like “=B1+B2”, stored in B3), that second formula (“=B1+B2”), will be evaluated first, and the result will be used in =B3*6.

Mathematical Operators

Excel uses eight basic mathematical operators:

Name	Symbol	Example
Exponent	^	10^2 = 100
Division	/	10/2 = 5
Multiplication	*	10*2 = 20
Addition	+	10+2 = 12
Subtraction	-	10-2 = 8
Equivalence	=	10 = 10
Greater Than	>	10>2
Less Than	<	2<10

The Order of Operations

The common mathematical operators shown above are listed from top to bottom in order of precedence. This means that Excel does not simply calculate expressions from left to right; certain operations are performed before others. Multiplication and division, addition and subtraction, and the greater than/less than operations each have equal precedence.

You can impose your own order of operations by enclosing expressions in parentheses (). The operations inside the parentheses will be evaluated before the operations outside. If you have parentheses within parentheses, such as $((2+3)*4)$, the expression in the inner parentheses, $(2+3) = 5$, will be evaluated first, and the result will be used to evaluate the expression in the outer parentheses, $(5*4) = 20$.

One easy way to remember precedence order is to remember the word “BEDMAS,” which stands for Brackets (Parentheses), Exponents, Division, Multiplication, Addition, and Subtraction. Note that:

- Division and multiplication have equal precedence, calculated from left to right.
- Addition and subtraction have equal precedence, calculated from left to right.

Types of References

Relative References

In the last lesson, we learned that worksheets are composed of rows (horizontal, referenced with numbers) and columns (vertical, referenced with letters). The intersection of each row with a column forms a cell, and each cell is given a name in the “ColumnRow” format. These are called **relative references** and are typically the most commonly used type of reference in Excel. Such references are flexible in that they change depending upon the position of the formula.

Absolute References

While relative references are fine for most situations, if data is moved around or copied using AutoFill, relative cell references can create incorrect and confusing results. To avoid this, **absolute cell references** are used. These references use dollar signs (\$) to make sure a formula always references the same location, no matter where it is moved.

You can assign absolute cell references in three ways:

- **\$Column\$Row:** Both the row and column designation will not change (\$A\$1).
- **\$ColumnRow:** The column designation will not change, but the row can (\$A1).
- **Column\$Row:** The row designation will not change, but the column can (A\$1).

Mixed References

Mixed references include a mix of absolute and relative cell references. For example, \$ColumnRow (\$A1) is a mixed reference because while the column designation is an absolute reference, the row designation is relative. Additionally, Column\$Row (A\$1) is also a mixed reference because the row designation is an absolute reference, while the column designation is a relative reference.

Activity 2-1: A Closer Look at Formulas

Now that you know a bit more about formulas, you want to take a closer look at the workbook your company uses to track invoices.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 2-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. First, let's look at the Invoice Details worksheet. Click its tab to display it:

The screenshot shows the Microsoft Excel Online interface. The title bar indicates the file is 'Activity 2-1 - Saved'. The ribbon is set to 'Home'. The formula bar shows 'Acme Widgets Inc.' in cell B1. The worksheet contains the following data:

Item #	Description	Qty	Unit Price	Discount	Price
Z4567	Invoice 3-456-2 Data 1	39	\$ 5.00	\$ -	\$ 195.00
Z4568	Invoice 3-456-2 Data 2	40	\$ 4.00	\$ 5.00	\$ 155.00

The worksheet tabs at the bottom are 'Invoice', 'Invoice Details', and 'Invoices - Main'. The 'Invoice Details' tab is currently selected.

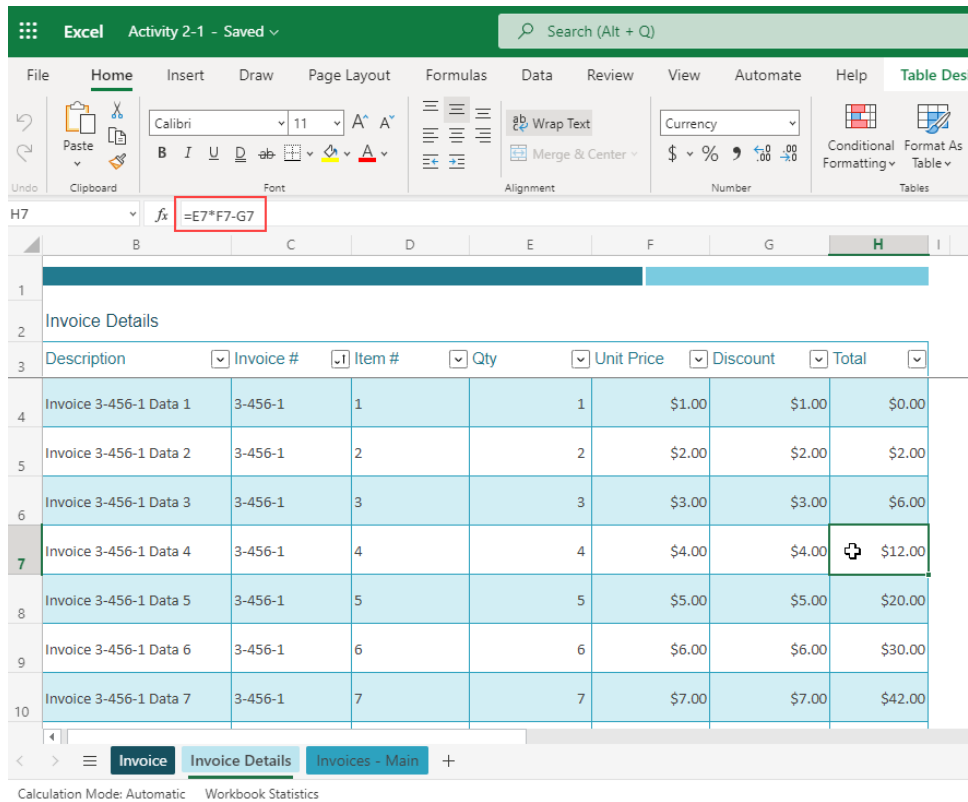
- Look at the structure of this workbook: it shows the quantity, unit price, discount, and total cost for each item ordered. Let's take a closer look at how the Total is counted. Click cell **H7** to activate it:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home'. The active cell is B2. The table below is titled 'Invoice Details' and contains the following data:

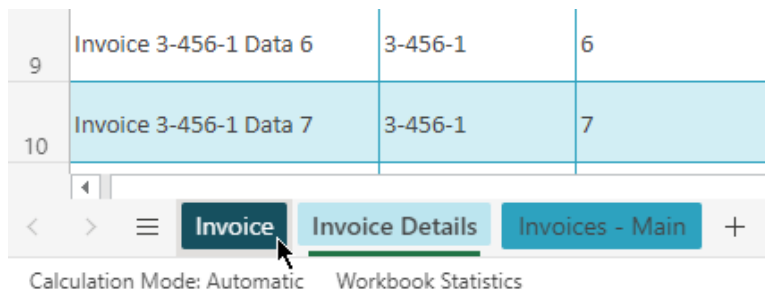
	Description	Invoice #	Item #	Qty	Unit Price	Discount	Total
4	Invoice 3-456-1 Data 1	3-456-1	1	1	\$1.00	\$1.00	\$0.00
5	Invoice 3-456-1 Data 2	3-456-1	2	2	\$2.00	\$2.00	\$2.00
6	Invoice 3-456-1 Data 3	3-456-1	3	3	\$3.00	\$3.00	\$6.00
7	Invoice 3-456-1 Data 4	3-456-1	4	4	\$4.00	\$4.00	\$12.00
8	Invoice 3-456-1 Data 5	3-456-1	5	5	\$5.00	\$5.00	\$20.00
9	Invoice 3-456-1 Data 6	3-456-1	6	6	\$6.00	\$6.00	\$30.00
10	Invoice 3-456-1 Data 7	3-456-1	7	7	\$7.00	\$7.00	\$42.00

The bottom of the screenshot shows the worksheet tabs: 'Invoice', 'Invoice Details', and 'Invoices - Main'. The status bar at the bottom indicates 'Calculation Mode: Automatic' and 'Workbook Statistics'.

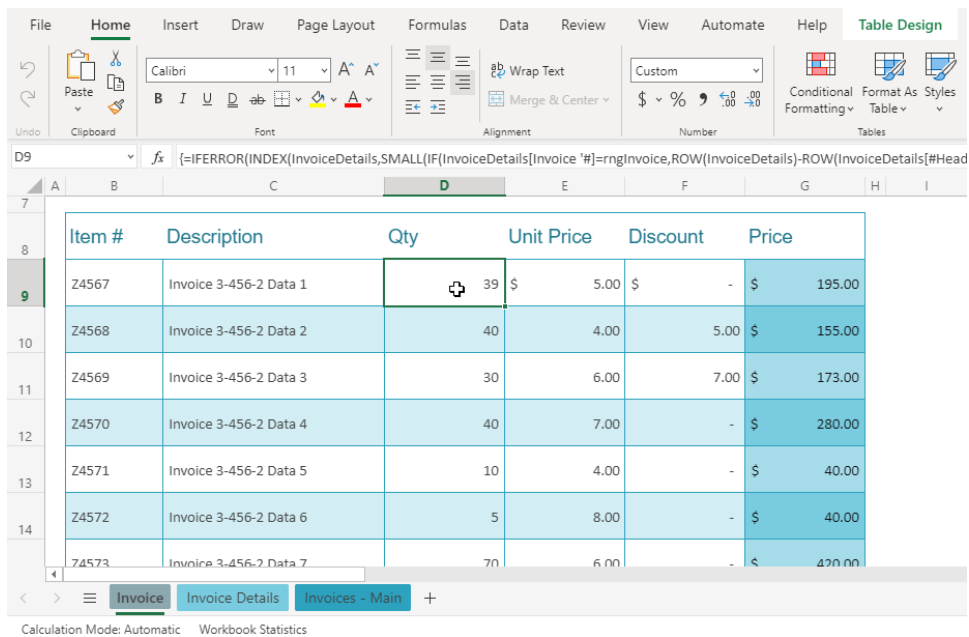
- This formula is very simple. It multiplies the quantity by the unit price, and subtracts the discount:



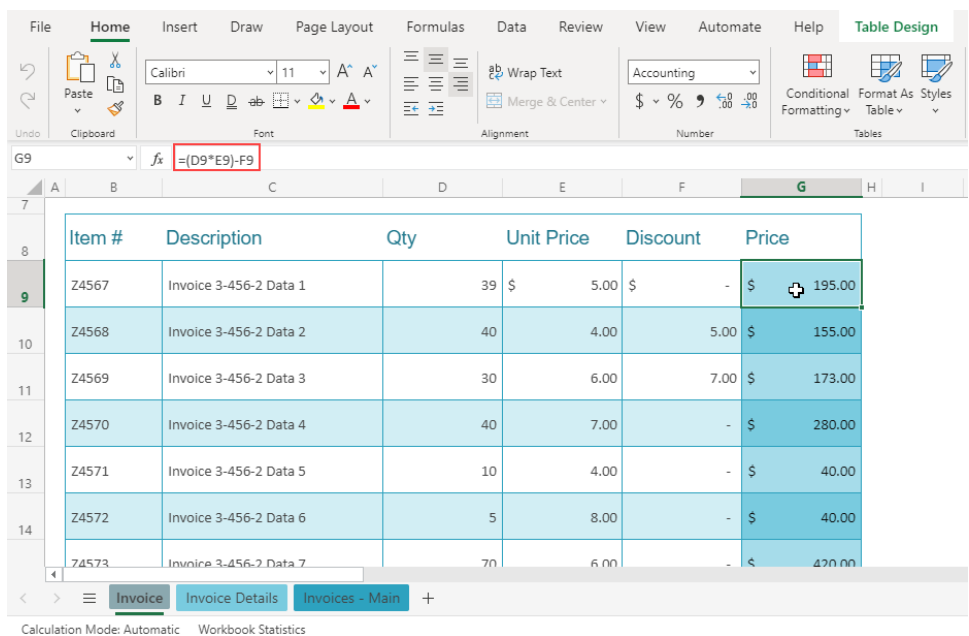
- Now, let's take a look at the **Invoice** worksheet. Switch to it by clicking its tab:



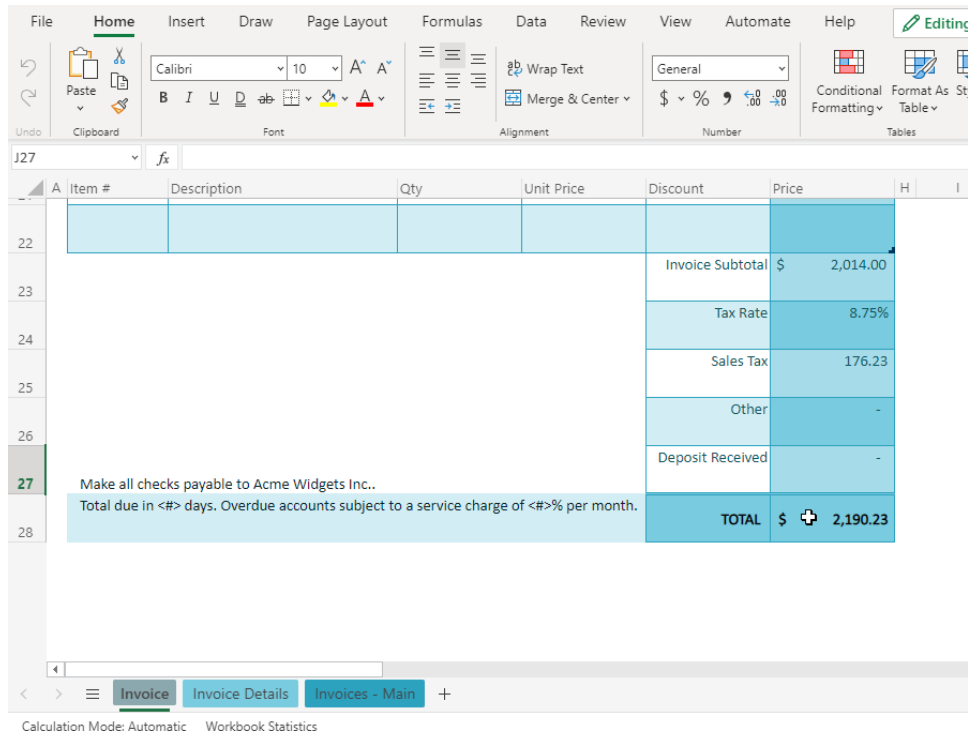
- Examine the formulas in cells D9 and E9. You can see that these are very complex functions that look up and summarize information from the Invoice Details sheet:



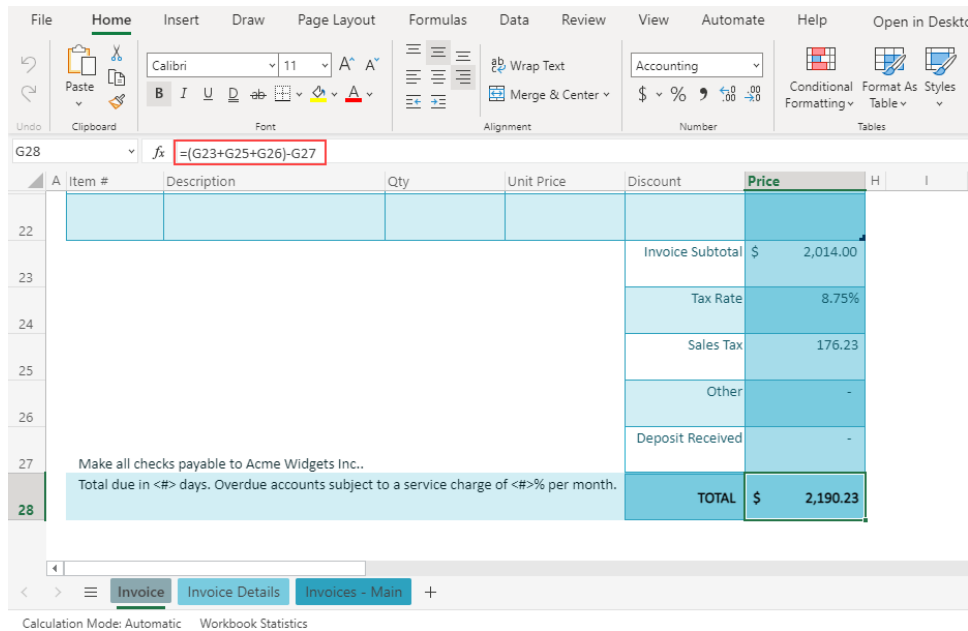
- Now, click cell G9. This formula is easy to understand – it uses the results of those complex calculations to calculate the total price:



8. Scroll down in the workbook and click cell G28:



9. This is another simple formula that uses parentheses to control the order of calculations, so that any deposit is subtracted after the total with tax is calculated:



- 10.** Close the Excel browser tab to complete this activity.

TOPIC B: Using Formulas and Functions

Functions are the next step in our examination of Excel. The purpose of a function is to provide you with an easy way to perform a complex calculation, so that you can focus on results instead of trying to remember your grade-school math equations. In this topic, you will explore how to make the best of the functions provided in Excel.

Topic Objectives

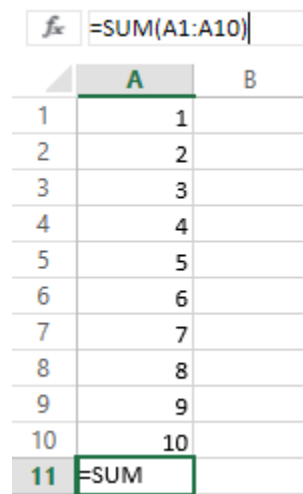
In this session, you will learn:

- About functions
- About formula AutoComplete
- How to use the Insert Function dialog box
- How to use AutoSum
- How to view quick calculations in the status bar
- About automatic workbook calculations

About Functions

Functions are pre-made operations that are used to perform calculations. Excel features a number of functions relating to basic math, financial applications, logic, date and time, and more. **Arguments** define the data to calculate. Together, functions and arguments comprise a **formula**.

For example, if you want to add a column of 10 numbers, you could type =A1+A2+A3+...etc., but that would quickly become tedious and would also make the spreadsheet harder to work with. A much more efficient way of performing this calculation is to use the SUM function, followed by the range of cells you want to add:



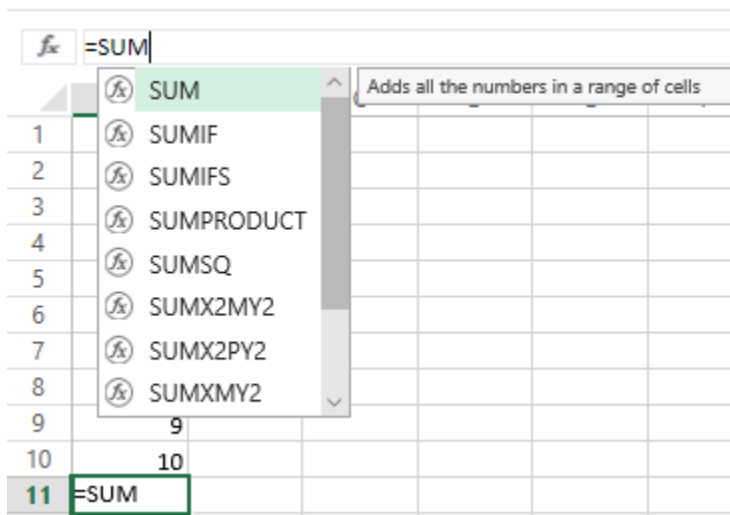
The image shows a screenshot of an Excel spreadsheet. At the top, the formula bar displays the formula `=SUM(A1:A10)`. Below the formula bar, a grid of cells is visible. Column A contains the numbers 1 through 10 in rows 1 through 10. Row 11, column A, is currently selected and contains the text `=SUM`, indicating that the SUM function is being entered into that cell.

	A	B
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	10	
11	=SUM	

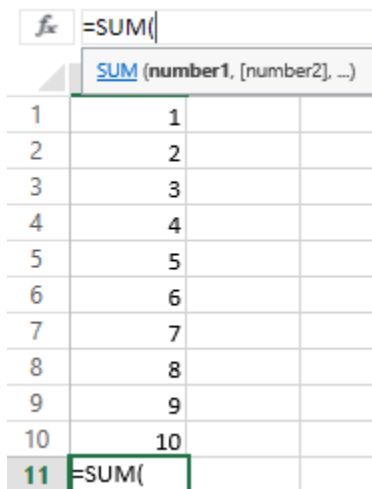
This is much easier than typing out a very long formula and allows for more flexibility if additional rows are added within the range.

Creating a Function with AutoComplete

As you are typing into the formula bar, Excel will suggest functions and show a description of the top result:



You can use your arrow keys to select the desired function and press **Tab** to apply it, or continue typing and ignore Excel's suggestions. Once the function is entered, Excel will prompt you to enter each argument (data point) as necessary. For the SUM function, the arguments will be the values and/or cell(s) to be added:



Note that you can click and drag to add cell ranges to the formula:

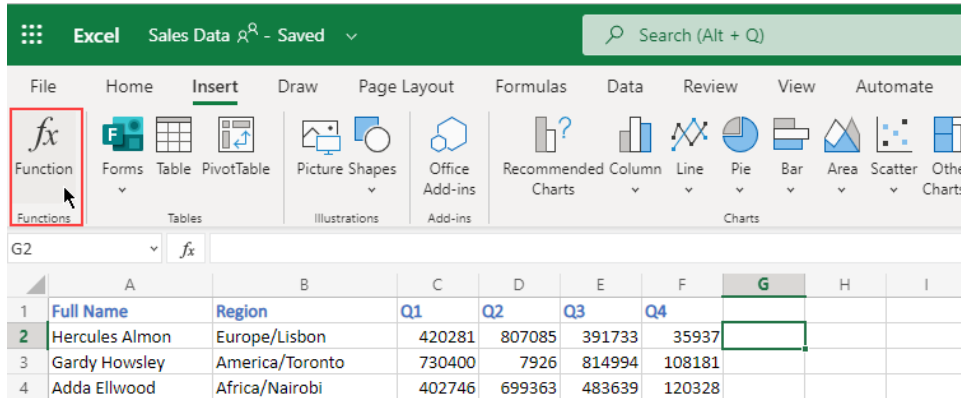
	A	B
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	10	
11	=SUM(A1:A10)	

When the formula is complete, add the closing parenthesis, press **Enter**, and Excel will calculate the value:

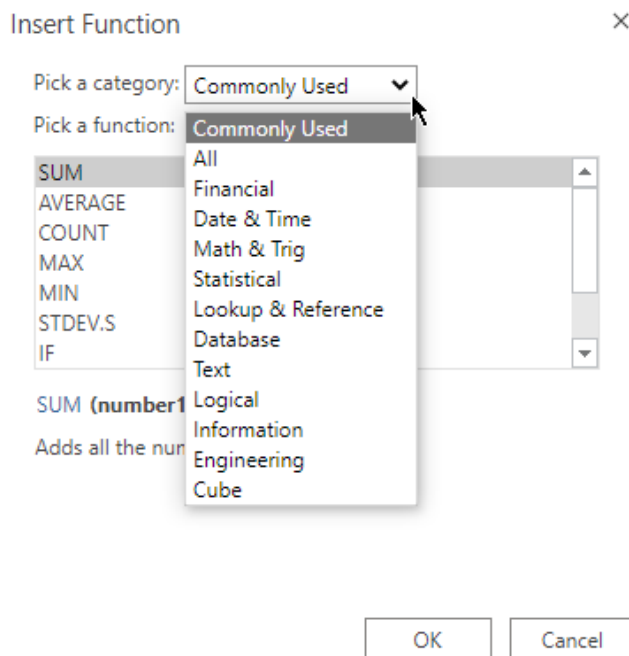
	A	B
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	10	
11		55

Using the Insert Function Dialog Box

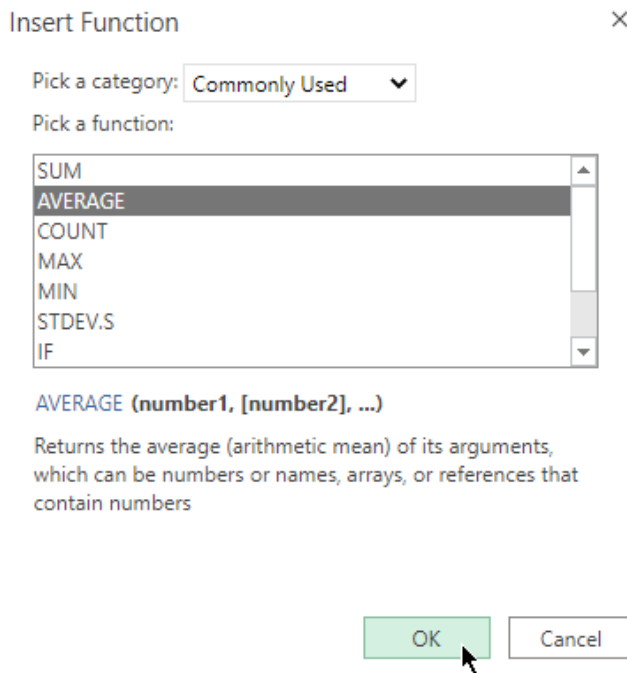
In this example, we used the SUM function, which is quite easy to remember. However, you can also use the Insert Function dialog box to create functions. To start, click the **Insert** tab and click **Function**, or click the **Insert Function** button on the formula bar:



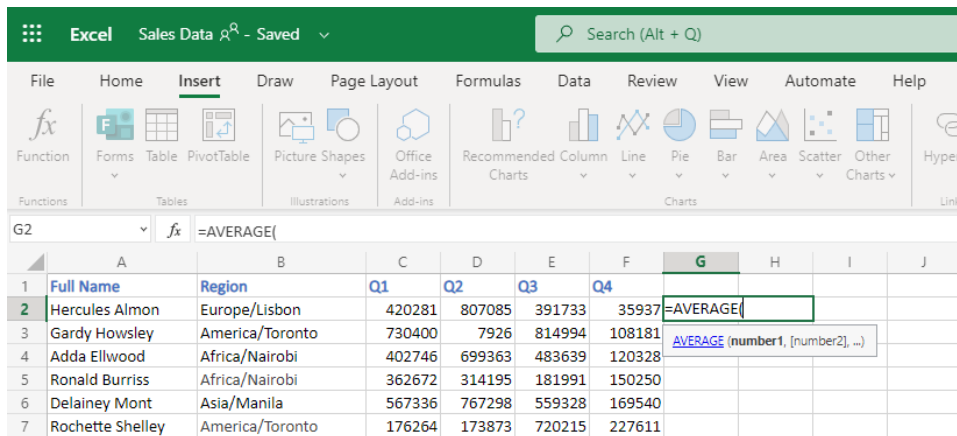
The Insert Function dialog box will open. At the top, you can choose a category:



Then, choose the desired function from the list and click **OK** to insert it:

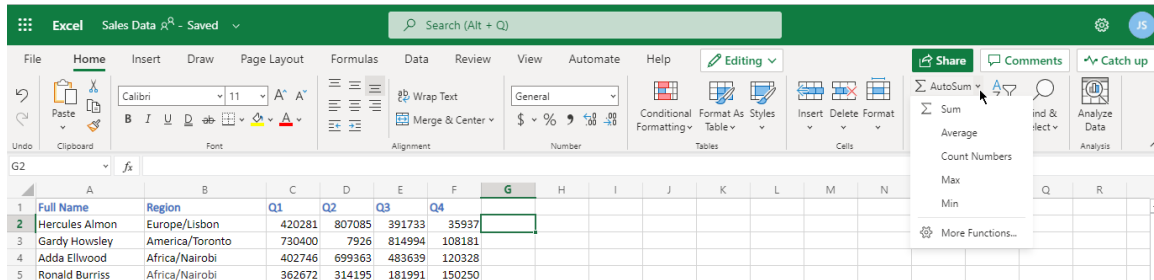


It will now be entered into the cell and the formula bar, ready for you to complete it with arguments:

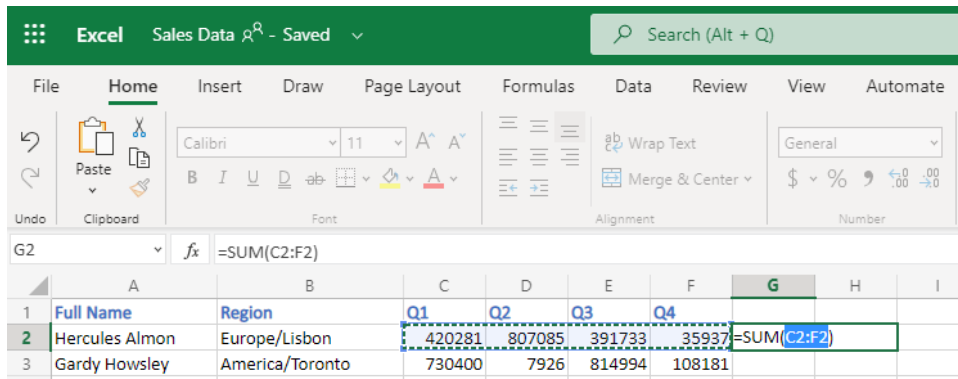


Using AutoSum

You can also insert common formulas using the AutoSum command on the **Home** tab. First, click the cell immediately below (if summing a column of data) or to the immediate right (if summing a row of data) of the data you want to calculate. Then, click the **AutoSum** command to use that function, or click the drop-down arrow to choose a different one:



When you click **AutoSum**, the function and the arguments will be inserted based on the surrounding data. As well, the column or row of data to be summed will be highlighted:



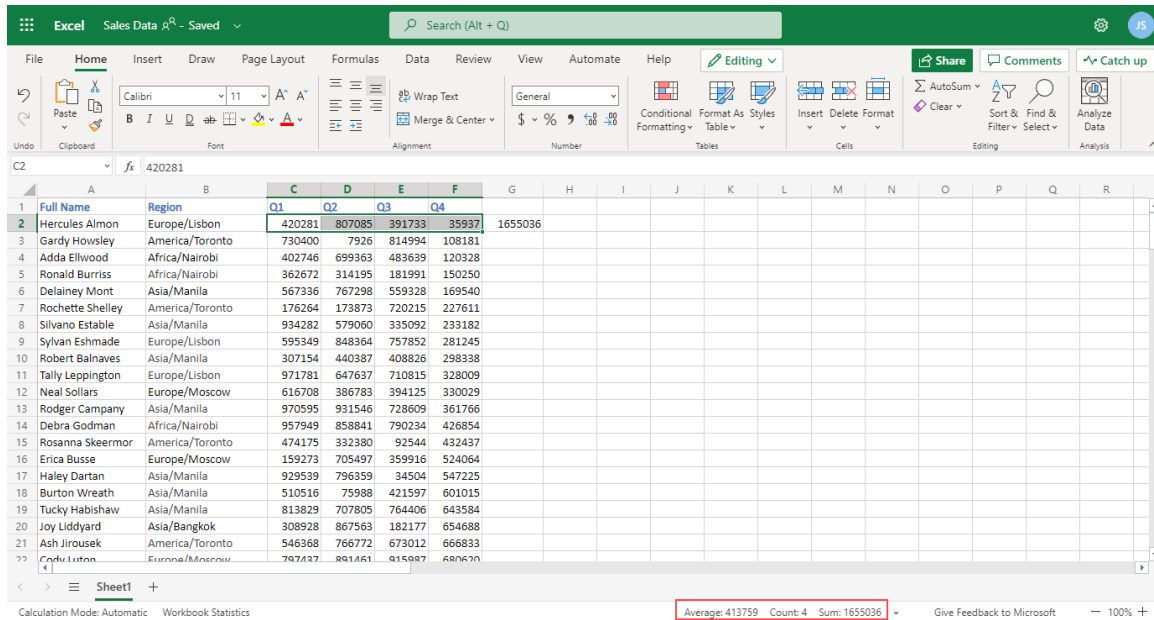
Press **Enter** to complete the formula:

Here is an overview of the functions available in the AutoSum menu.

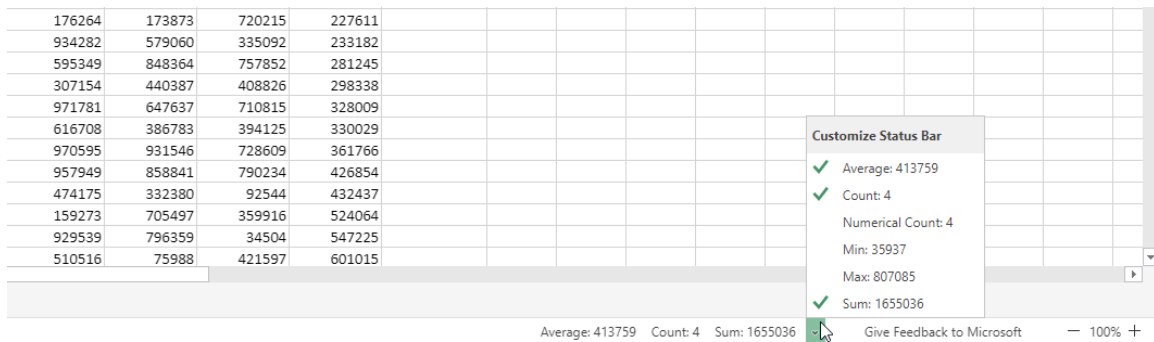
Name	Description
Sum	Add values in a specified range.
Average	Determine the average value in a range.
Count Numbers	Determine the number of cells that contain a numeric value in a range.
Max	Find the highest value in a range.
Min	Find the lowest value in a range.

Viewing AutoSum Calculations in the Status Bar

When you select a range of data, Excel will automatically calculate the average, count, and sum of the data and display it in the status bar:



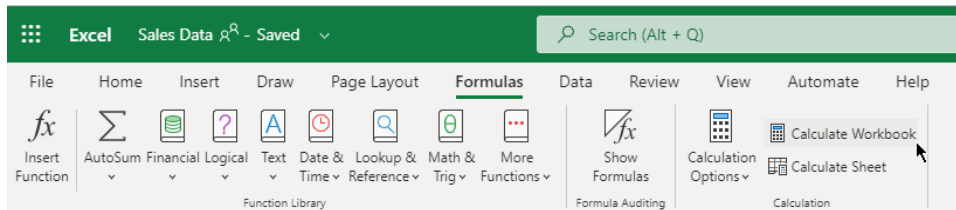
To view additional automatic calculations, click the dropdown arrow next to the right-most calculation:



You will then see the results of all the available automatic calculations. You can click any entry to add it to the status bar (or remove it, if it is already present.)

Automatic Workbook Calculations

By default, Excel will automatically calculate formula results. However, this process can be delayed depending on the size of the workbook. To force Excel to calculate the workbook, click **Formula** → **Calculate Workbook**:



The calculations will then be completed.

Activity 2-2: Using Formulas and Functions

In this activity, you will start working on a rough draft of a sales report.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 2-2 from OneDrive.
2. First, we need to set up formulas to calculate the operating profit. Click cell **F2**:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home'. The formula bar is empty. The following table is displayed:

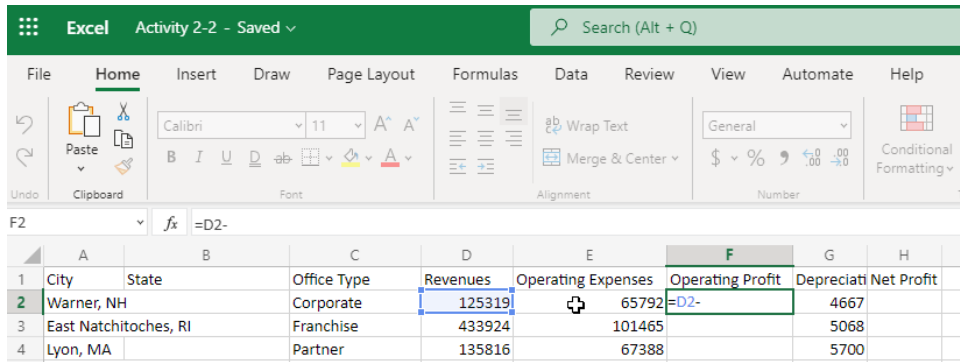
	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated	Net Profit
2	Warner, NH		Corporate	125319	65792		4667	
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	

3. Type an equals (=) sign. Then, click cell **D2**:

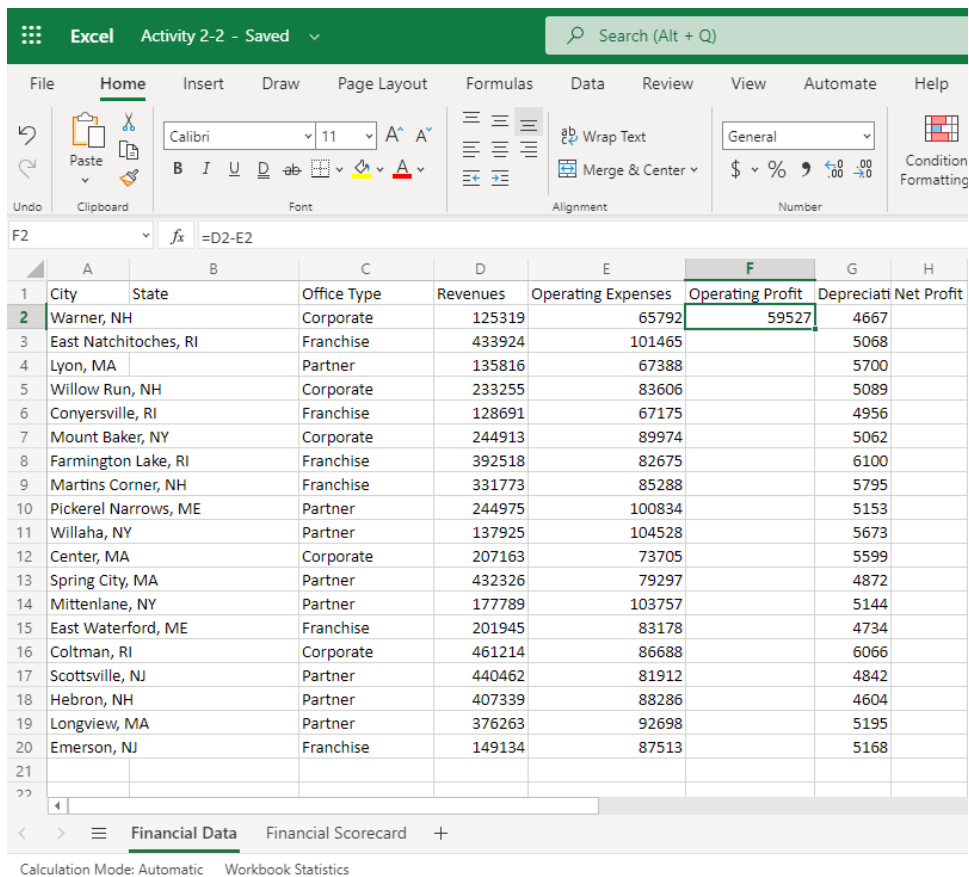
The screenshot shows the Microsoft Excel Online interface. The formula bar now contains an equals sign (=). The following table is displayed:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated	Net Profit
2	Warner, NH		Corporate	125319	65792		4667	
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	
7	Mount Baker, NY		Corporate	244913	89974		5062	
8	Farlington Lake, RI		Franchise	392518	82675		6100	

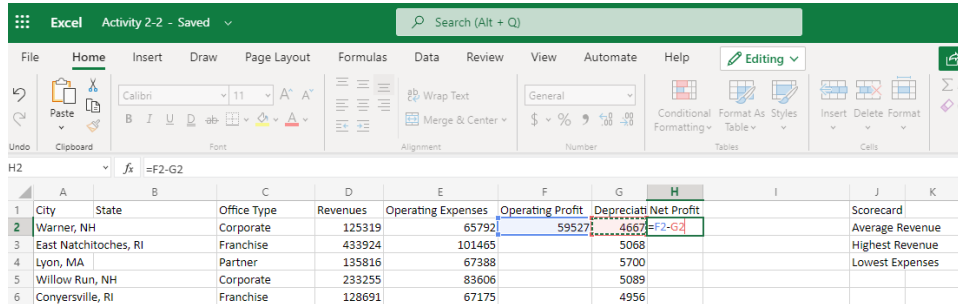
4. Type a minus (-) sign and click cell E2:



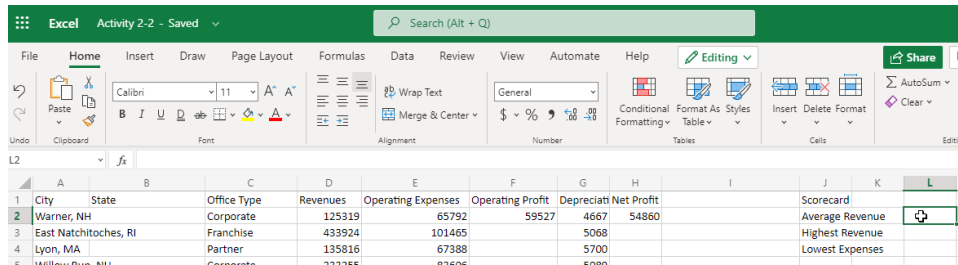
5. Press Enter to complete the formula:



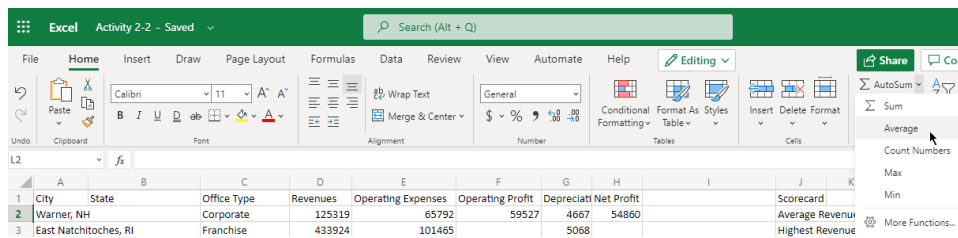
- We will complete the rest of the column in the next activity. For now, click cell **H2** and repeat Steps 2 through 5 to create a formula that subtracts depreciation from the operating profit, to calculate the net profit:



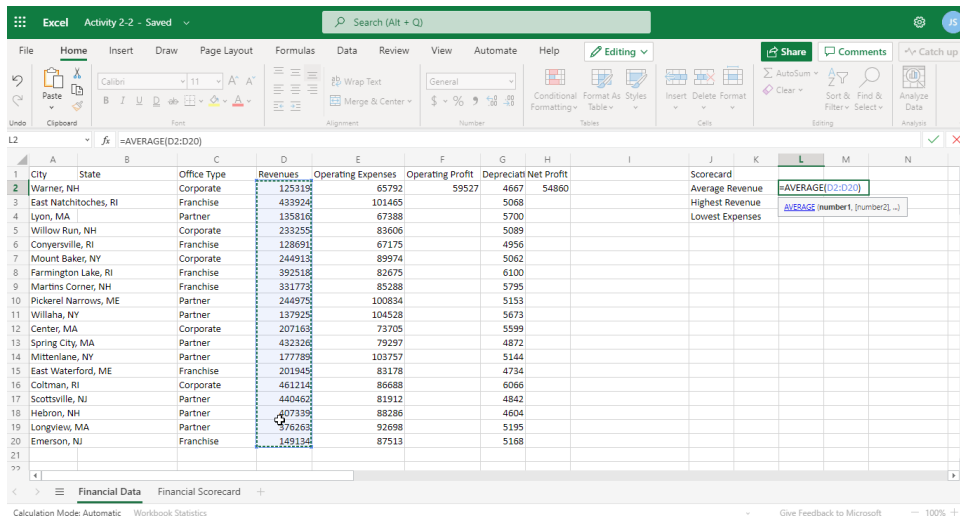
- Now, let's work on our scorecard. Click cell **L2**, where we want to calculate the average revenue:



- Click the AutoSum arrow on the **Home** tab and click **Average**:



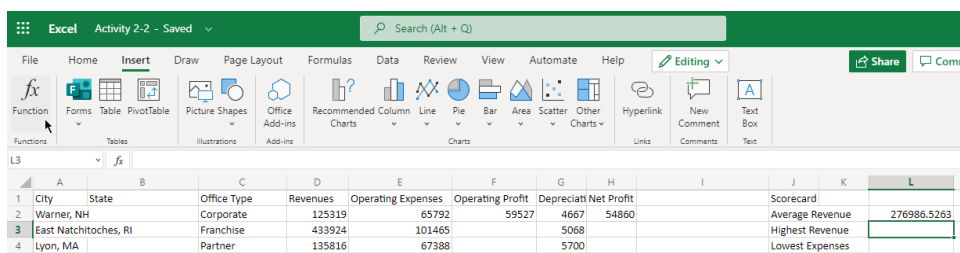
- By default, Excel will select the values in the first part of the row, but this is not what we want. Click and drag to select cells **D2 to D20** instead:



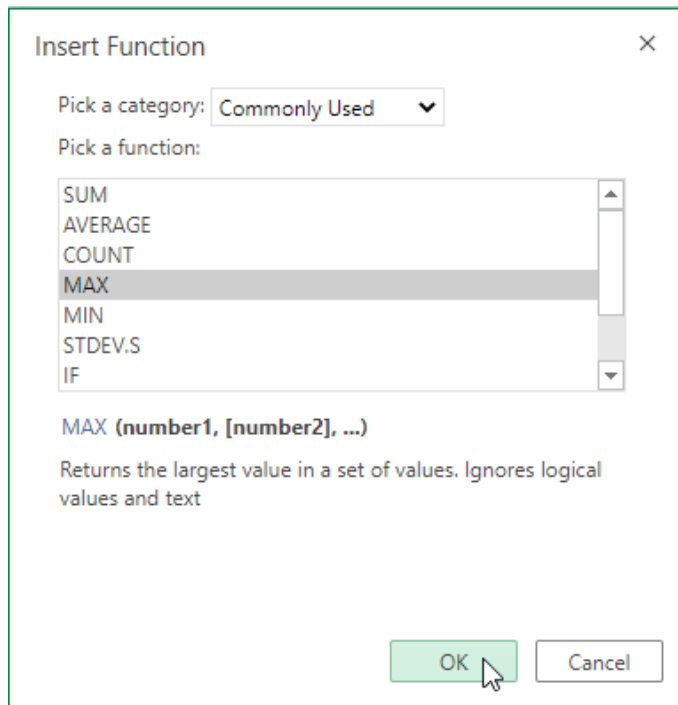
- Press **Enter** to complete the formula and calculate the results:

J	K	L
Scorecard		
Average Revenue		276986.5263
Highest Revenue		
Lowest Expenses		

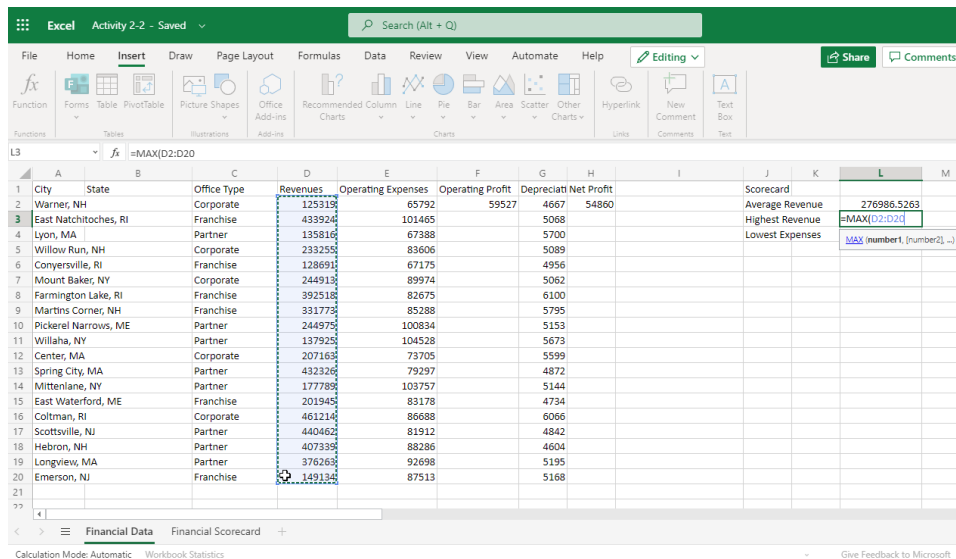
- Cell L3 should now be selected. This is where we want to display the highest revenue. Let's use a different method to create this formula. To begin, click **Insert** → **Function**:



- Ensure that the **Commonly Used** category is selected. Then, click the **MAX** function from the list. Click **OK** to insert it:



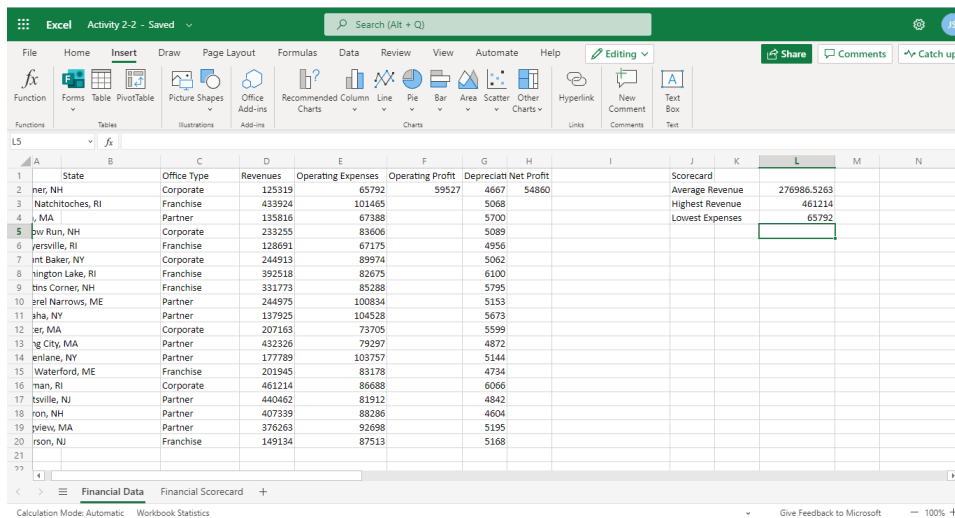
- Now, click and drag to select cells **D2 to D20**:



14. Press **Enter** to complete the formula and calculate the results:

J	K	L
Scorecard		
Average Revenue		276986.5263
Highest Revenue		461214
Lowest Expenses		

15. Now, use either the **AutoSum** command or the **Insert Function** command to calculate the lowest value in the Operating Expenses column with the **MIN** function:



16. Let's double-check the first two values we calculated. Select cells **D2 to D20**:

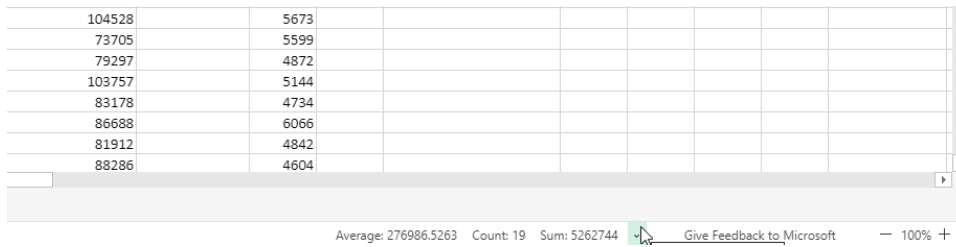
	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated	Net Profit
2	Warner, NH		Corporate	125319	65792	59527	4667	54860
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	
7	Mount Baker, NY		Corporate	244913	89974		5062	
8	Farmington Lake, RI		Franchise	392518	82675		6100	
9	Martins Corner, NH		Franchise	331773	85288		5795	
10	Pickrel Narrows, ME		Partner	244975	100834		5153	
11	Willaha, NY		Partner	137925	104528		5673	
12	Center, MA		Corporate	207163	73705		5599	
13	Spring City, MA		Partner	432326	79297		4872	
14	Mittenlane, NY		Partner	177789	103757		5144	
15	East Waterford, ME		Franchise	201945	83178		4734	
16	Coltman, RI		Corporate	461214	86688		6066	
17	Scottsville, NJ		Partner	440462	81912		4842	
18	Hebron, NH		Partner	407339	88286		4604	
19	Longview, MA		Partner	376263	92698		5195	
20	Emerson, NJ		Franchise	149134	87513		5168	
21								

17. Look at the average calculated in the status bar, and compare it to the average calculated using the function:

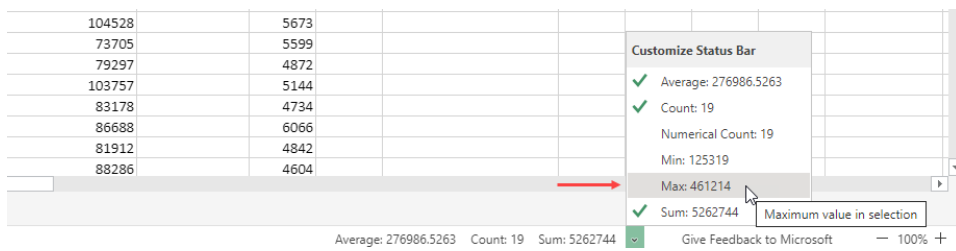
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	State		Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated	Net Profit		Scorecard				
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Average Revenue	276986.5263			
3	East Natchitoches, RI		Franchise	433924	101465		5068			Highest Revenue	461214			
4	Lyon, MA		Partner	135816	67388		5700			Lowest Expenses	65792			
5	Willow Run, NH		Corporate	233255	83606		5089							
6	Conyersville, RI		Franchise	128691	67175		4956							
7	Mount Baker, NY		Corporate	244913	89974		5062							
8	Farmington Lake, RI		Franchise	392518	82675		6100							
9	Martins Corner, NH		Franchise	331773	85288		5795							
10	Pickrel Narrows, ME		Partner	244975	100834		5153							
11	Willaha, NY		Partner	137925	104528		5673							
12	Center, MA		Corporate	207163	73705		5599							
13	Spring City, MA		Partner	432326	79297		4872							
14	Mittenlane, NY		Partner	177789	103757		5144							
15	East Waterford, ME		Franchise	201945	83178		4734							
16	Coltman, RI		Corporate	461214	86688		6066							
17	Scottsville, NJ		Partner	440462	81912		4842							
18	Hebron, NH		Partner	407339	88286		4604							
19	Longview, MA		Partner	376263	92698		5195							
20	Emerson, NJ		Franchise	149134	87513		5168							
21														

Calculation Mode: Automatic Workbook Statistics Average: 276986.5263 Count: 19 Sum: 5262744 Give Feedback to Microsoft 100%

18. However, the MAX function is not shown here. Click the dropdown arrow next to the **SUM** calculation on the status bar:



19. The Max value shown here should match our MAX function:



20. Close the Excel browser tab to complete this activity.

TOPIC C: Working with Data

Excel contains a number of tools to help reduce your workload and streamline tasks. This topic will introduce you to a few tools and techniques that you can use when working with formulas.


Topic Objectives

In this session, you will learn how to:

- Select cells
- Cut, copy, and paste data
- Use paste options
- Move data with drag and drop
- Use Undo and Redo
- Use AutoFill and Flash Fill

Selecting Cells

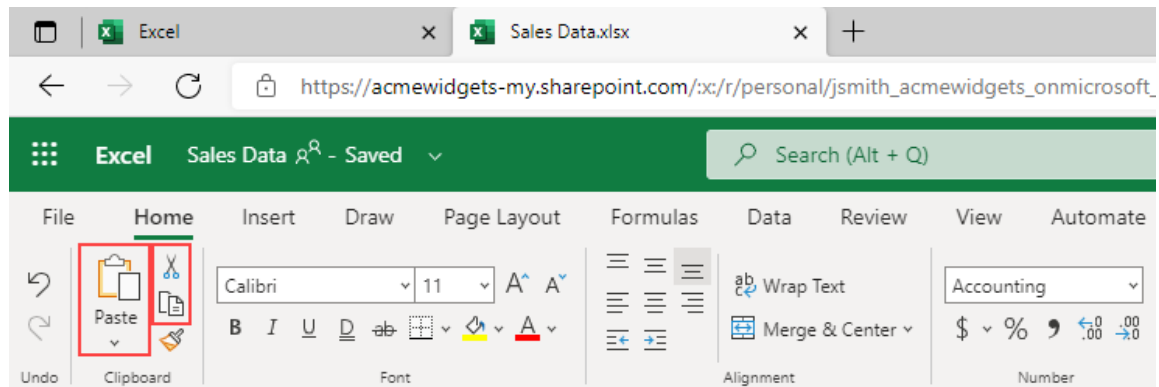
Below are some of the more common techniques that you can use to select various parts of a worksheet:

Select a cell	Click on the cell.
Select a contiguous range of cells	Click the first cell included in the range. Hold down the Shift key and then click on the last cell in the range.
Select an entire row	Click on the numerical header.
Select an entire column	Click on the alphabetic header.
Select an entire worksheet	Click the worksheet selector next to Column A () or press Ctrl + A on your keyboard.

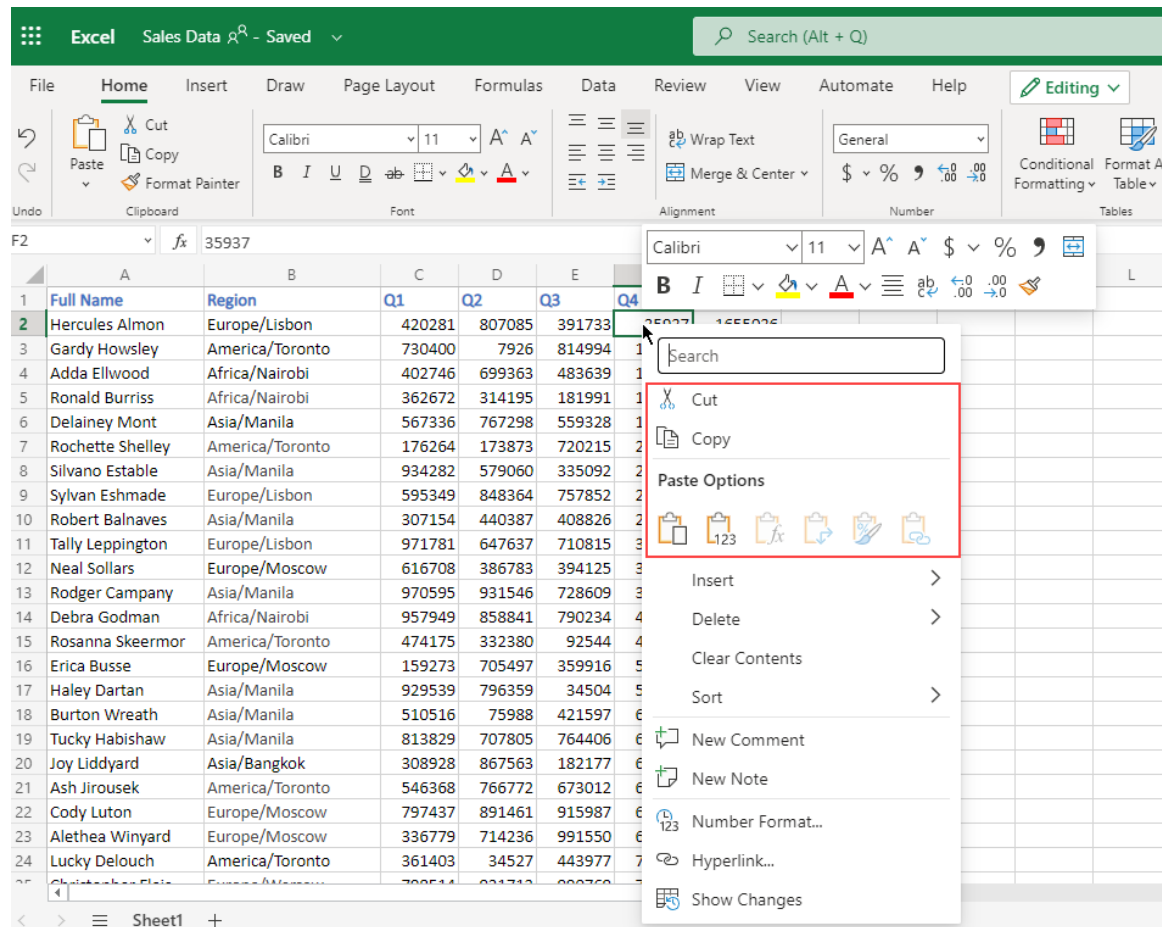
The Cut, Copy, and Paste Commands

Just like many applications, Excel allows you to move and/or copy cells and their contents to other areas of the workbook or even other applications. You can move a cell's contents using the **Cut** and **Paste** commands. To copy a cell's contents, use the **Copy** and **Paste** commands.

You can find all of these commands in the Clipboard group of the **Home** tab:



These commands are also available on the right-click menu:



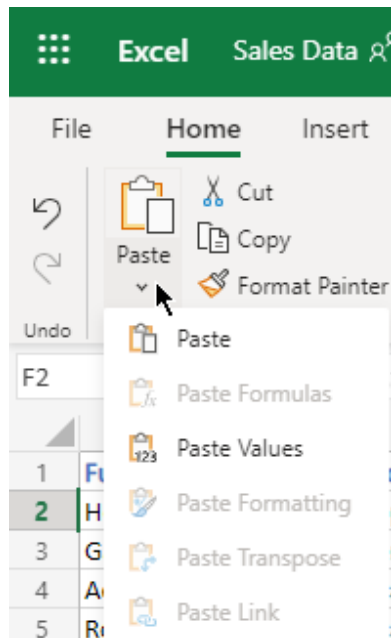
Keyboard Shortcuts

Here are the keyboard shortcuts for these commands.

- **Cut:** Ctrl + X
- **Copy:** Ctrl + C
- **Paste:** Ctrl + V

Using Paste Options

Special paste options are available under the **Paste** command by clicking the dropdown arrow:



The standard **Paste** option (at the top and available by clicking directly on the **Paste** button) is used to paste all formatting with the contents of the cell. You can also choose to paste only the formulas, values, or formatting by selecting one of those options from the menu.

Moving Data with Drag and Drop

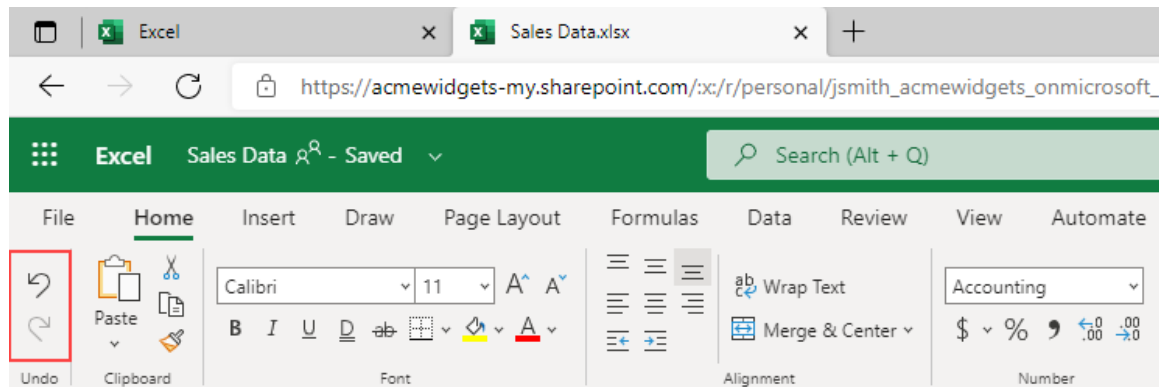
You can also move Excel data by selecting cell(s) and dragging and dropping them to a new location:

The screenshot displays the Microsoft Excel Online interface. The title bar shows 'Excel Sales Data - Saved'. The ribbon includes 'File', 'Home', 'Insert', 'Draw', 'Page Layout', 'Formulas', 'Data', and 'Review'. The 'Home' ribbon is active, showing options for 'Undo', 'Paste', 'Cut', 'Copy', 'Format Painter', 'Font' (Calibri, 11), and 'Alignment'. The active cell is A20, containing the text 'Joy Liddyard'. Below the ribbon is a data table with columns A through F and rows 12 through 33. Row 20 is highlighted, and a selection box is visible around cell A32, with a drag handle (four arrows) over it. The formula bar shows 'fx Joy Liddyard'.

	A	B	C	D	E	F
12	Neal Sollars	Europe/Moscow	616708	386783	394125	330029
13	Rodger Campany	Asia/Manila	970595	931546	728609	361766
14	Debra Godman	Africa/Nairobi	957949	858841	790234	426854
15	Rosanna Skeermor	America/Toronto	474175	332380	92544	432437
16	Erica Busse	Europe/Moscow	159273	705497	359916	524064
17	Haley Dartan	Asia/Manila	929539	796359	34504	547225
18	Burton Wreath	Asia/Manila	510516	75988	421597	601015
19	Tucky Habishaw	Asia/Manila	813829	707805	764406	643584
20	Joy Liddyard	Asia/Bangkok	308928	867563	182177	654688
21	Ash Jirousek	America/Toronto	546368	766772	673012	666833
22	Cody Luton	Europe/Moscow	797437	891461	915987	680620
23	Alethea Winyard	Europe/Moscow	336779	714236	991550	683046
24	Lucky Delouch	America/Toronto	361403	34527	443977	703156
25	Christopher Fleis	Europe/Warsaw	798514	921713	990769	723199
26	Hardy Eyckel	Asia/Bangkok	838056	656136	183799	731530
27	Aguste Fessier	America/Toronto	188750	905639	760280	830950
28	Drake Becom	Europe/Warsaw	716090	522192	47961	972959
29	Ebonee Louch	Asia/Bangkok	366306	115862	350344	884357
30	Galvin Freiberg	Europe/Warsaw	235049	880195	60264	733404
31	Wanda Ratlee	Asia/Bangkok	78557	192961	950871	834403
32						
33						

The Undo and Redo Commands

Like many other applications, the **Undo** command allows you to reverse the last action that you completed. The **Redo** command, on the other hand, will repeat the last action. Both of these commands are available on the **Home** tab:

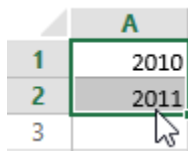


You can also perform the **Undo** command by pressing **Ctrl + Z** on your keyboard. The shortcut for the **Redo** command is **Ctrl + Y**.

Using AutoFill

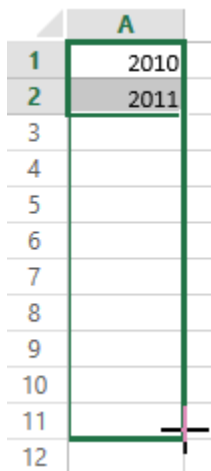
AutoFill can help you quickly enter repeated or incremental text and numbers. For example, imagine that you have to enter all of the years from 2010 to 2020 in a worksheet. Rather than typing each year manually, you can use AutoFill to enter the data quickly and easily.

In order to use AutoFill, you need to establish a pattern. For this example, we will type 2010 in one cell and 2011 immediately below. Then we will select both cells:



	A
1	2010
2	2011
3	

Next, we will click and drag the AutoFill handle (the small green square in the bottom right corner of cell A2) down the worksheet until the desired value is reached. In this case, we know there are 11 numbers in our desired range:



	A
1	2010
2	2011
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

When you release the mouse button, Excel will automatically fill in the values:



	A
1	2010
2	2011
3	2012
4	2013
5	2014
6	2015
7	2016
8	2017
9	2018
10	2019
11	2020
12	

Excel also comes pre-programmed with some other common AutoFill sequences, including days of the week and months of the year.

Using Flash Fill

Flash Fill is similar to AutoFill, but automatically extracts or combines data. Let's look at this worksheet as an example:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home', and the 'Flash Fill' icon is visible in the 'Clipboard' group. The worksheet contains a table with the following data:

Full Name	Email Address	Region	Q1	Q2	Q3	Q4
Hercules Almon	<u>h.almon@acmewidgets.com</u>	Europe/Lisbon	420281	807085	391733	35937
Gardy Howsley		America/Toronto	730400	7926	814994	108181
Adda Ellwood		Africa/Nairobi	402746	699363	483639	120328
Ronald Burriss		Africa/Nairobi	362672	314195	181991	150250
Delaine Mont		Asia/Manila	567336	767298	559328	169540
Rochette Shelley		America/Toronto	176264	173873	720215	227611
Silvano Estable		Asia/Manila	934282	579060	335092	233182
Sylvan Eshmade		Europe/Lisbon	595349	848364	757852	281245
Robert Balnaves		Asia/Manila	307154	440387	408826	298338
Tally Leppington		Europe/Lisbon	971781	647637	710815	328009
Neal Sollars		Europe/Moscow	616708	386783	394125	330029
Rodger Campany		Asia/Manila	970595	931546	728609	361766
Debra Godman		Africa/Nairobi	957949	858841	790234	426854
Rosanna Skeermor		America/Toronto	474175	332380	92544	432437
Erica Busse		Europe/Moscow	159273	705497	359916	524064
Haley Dartan		Asia/Manila	929539	796359	34504	547225
Burton Wreath		Asia/Manila	510516	75988	421597	601015
Tucky Habishaw		Asia/Manila	813829	707805	764406	643584
Joy Liddyard		Asia/Bangkok	308928	867563	182177	654688
Ash Jirousek		America/Toronto	546368	766772	673012	666833
Cody Luton		Europe/Moscow	797437	891461	915987	680620
Alethea Winyard		Europe/Moscow	336779	714236	991550	683046

We know that each person's email address is their first initial with their last name, at the domain "acmewidgets.com." We have filled in the first email address as an example, but it would be quite time-consuming to manually enter each one.

Instead, let's select the column and click **Data** → **Flash Fill**:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to the **Data** tab, and the **Data Tools** group is expanded, showing the **Flash Fill** button. The spreadsheet contains a table with columns for Full Name, Email Address, Region, and quarterly sales (Q1-Q4).

	A	B	C	D	E	F	G	H	I	J
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4			
2	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937			
3	Gardy Howsley		America/Toronto	730400	7926	814994	108181			
4	Adda Ellwood		Africa/Nairobi	402746	699363	483639	120328			
5	Ronald Burriss		Africa/Nairobi	362672	314195	181991	150250			
6	Delainey Mont		Asia/Manila	567336	767298	559328	169540			
7	Rochette Shelley		America/Toronto	176264	173873	720215	227611			
8	Silvano Estable		Asia/Manila	934282	579060	335092	233182			
9	Sylvan Eshmade		Europe/Lisbon	595349	848364	757852	281245			
10	Robert Balnaves		Asia/Manila	307154	440387	408826	298338			
11	Tally Leppington		Europe/Lisbon	971781	647637	710815	328009			
12	Neal Sollars		Europe/Moscow	616708	386783	394125	330029			
13	Rodger Campany		Asia/Manila	970595	931546	728609	361766			
14	Debra Godman		Africa/Nairobi	957949	858841	790234	426854			
15	Rosanna Skeermor		America/Toronto	474175	332380	92544	432437			
16	Erica Busse		Europe/Moscow	159273	705497	359916	524064			
17	Haley Dartan		Asia/Manila	929539	796359	34504	547225			
18	Burton Wreath		Asia/Manila	510516	75988	421597	601015			
19	Tucky Habishaw		Asia/Manila	813829	707805	764406	643584			
20	Joy Liddyard		Asia/Bangkok	308928	867563	182177	654688			
21	Ash Jirousek		America/Toronto	546368	766772	673012	666833			
22	Cody Luton		Europe/Moscow	797437	891461	915987	680620			
23	Alethea Winyard		Europe/Moscow	336779	714236	991550	683046			

Here are the results:

The screenshot displays the Microsoft Excel Online interface. The title bar shows 'Excel Sales Data - Saved'. The ribbon is set to the 'Data' tab, with options for sorting (Sort Ascending, Sort Descending) and filtering. The active cell is B1, containing the text 'Email Address'. Below the ribbon, a data table is visible with the following columns: Full Name, Email Address, Region, Q1, Q2, Q3, and Q4. The table contains 23 rows of data, including names like Hercules Almon, Gardy Howsley, and Adda Ellwood, along with their respective email addresses, regions, and quarterly sales figures.

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937
3	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181
4	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328
5	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250
6	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540
7	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611
8	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182
9	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	595349	848364	757852	281245
10	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338
11	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	971781	647637	710815	328009
12	Neal Sollars	n.sollars@acmewidgets.com	Europe/Moscow	616708	386783	394125	330029
13	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766
14	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854
15	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437
16	Erica Busse	e.busse@acmewidgets.com	Europe/Moscow	159273	705497	359916	524064
17	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225
18	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015
19	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584
20	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Bangkok	308928	867563	182177	654688
21	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833
22	Cody Luton	c.luton@acmewidgets.com	Europe/Moscow	797437	891461	915987	680620
23	Alethea Winyard	a.winyard@acmewidgets.com	Europe/Moscow	336779	714236	991550	683046

Calculation Mode: Automatic Workbook Statistics

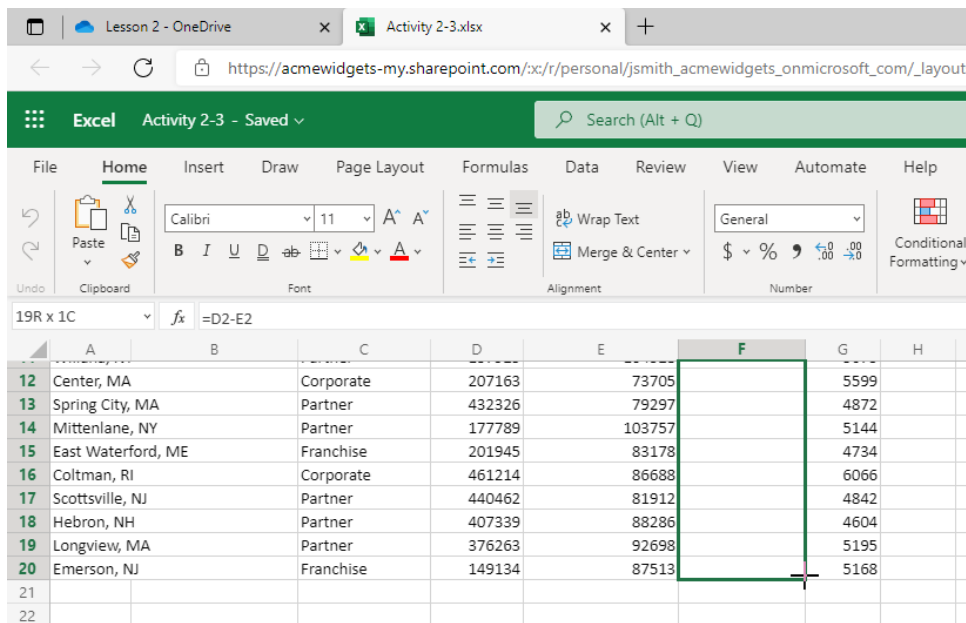
Activity 2-3: Working with Data

In this activity, you will use AutoFill and Flash Fill to complete the financial data workbook.

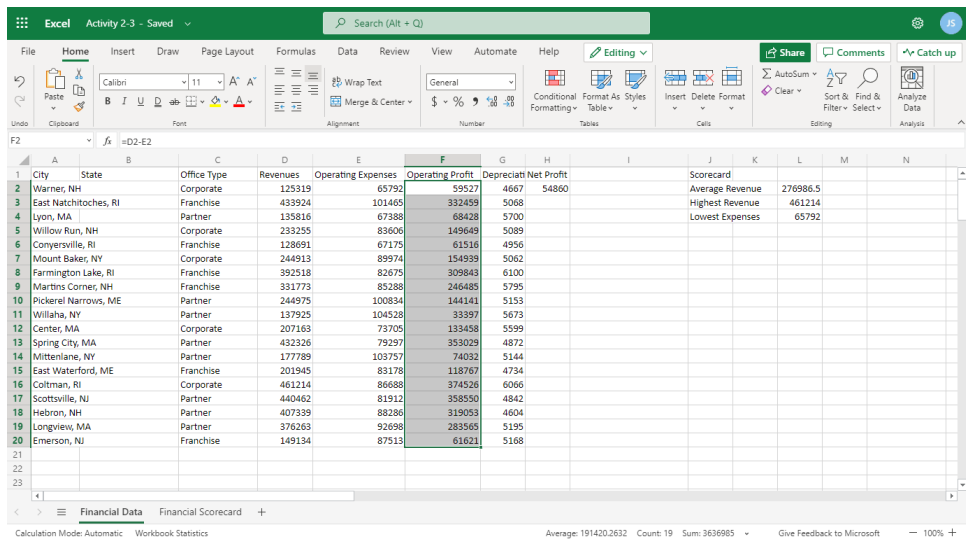
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 2-3 from OneDrive.
2. First, let's use AutoFill to complete the formulas for the two profit columns. First, select cell F2 and place your cursor over the green handle in the bottom right corner of the cell:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciati	Net Profit
2	Warner, NH		Corporate	125319	65792	59527	4667	54860
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	

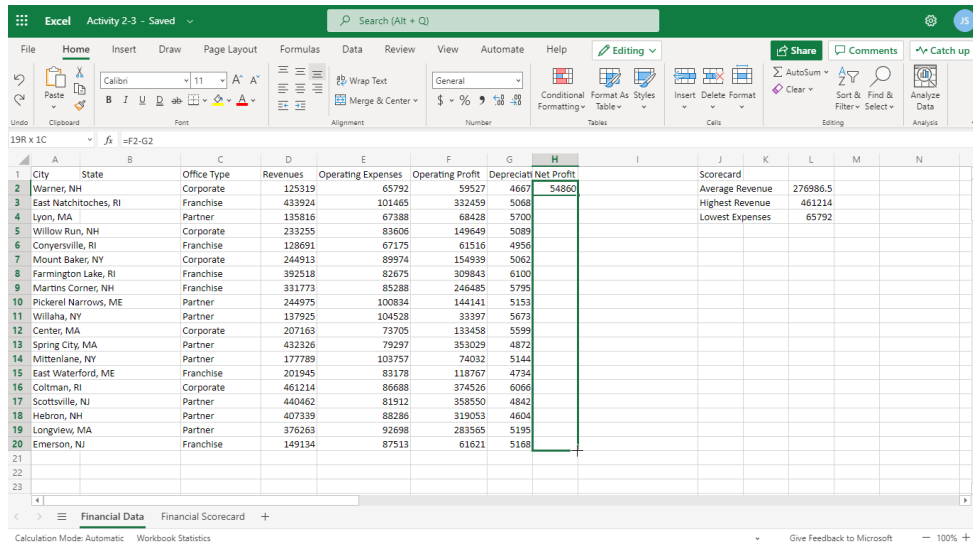
- Click and drag it down to cell **F20**. This will copy the formula from F2 to all of the blank cells, adjusting the references for each row:



- Observe the results:



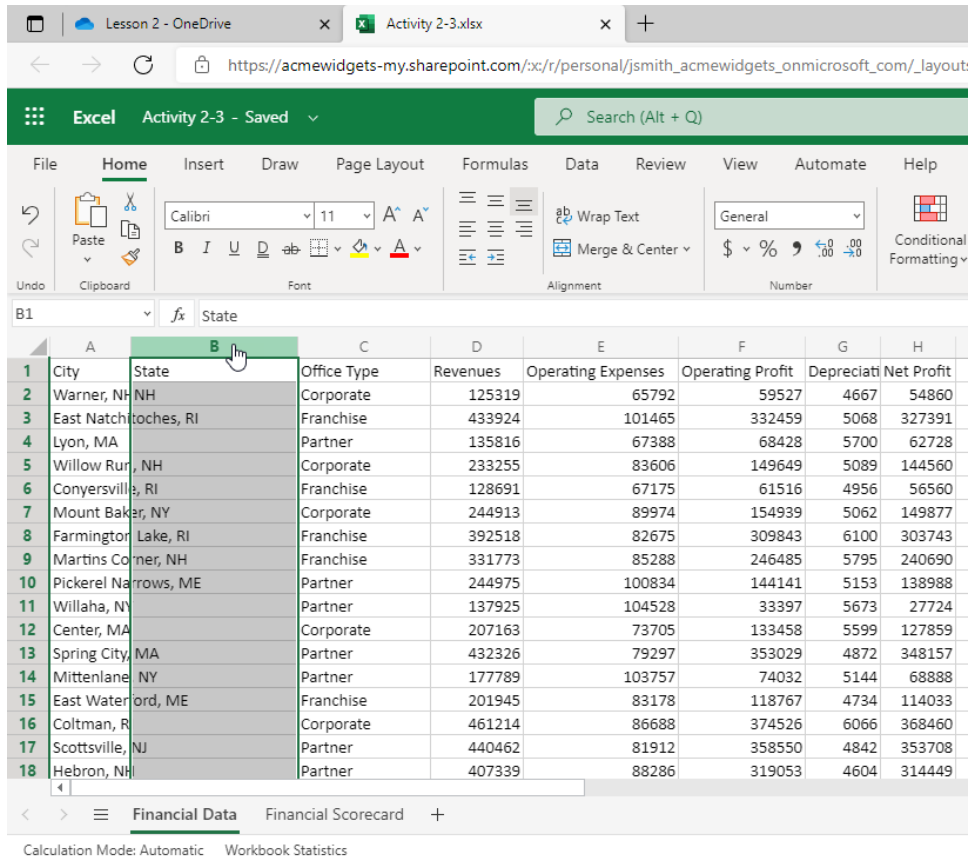
5. Repeat this process with column H:



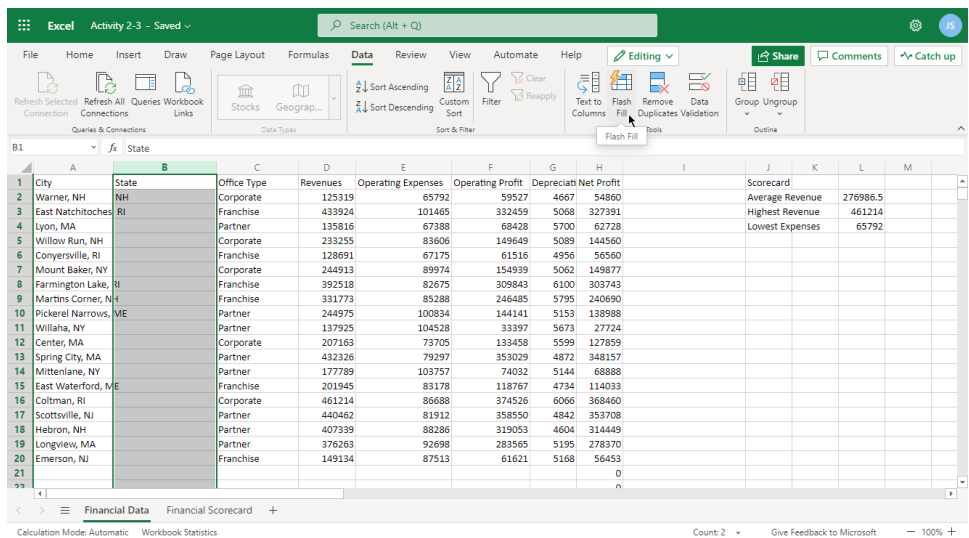
6. Now, let's use Flash Fill to separate the State abbreviations in Column A into Column B. Click in cell B2 and type "NH" as this is the state abbreviation referenced in A2:

	A	B	C
1	City	State	Office Type
2	Warner, NH	NH	Corporate
3	East Natchitoches, RI		Franchise
4	Lyon, MA		Partner

7. Select **Column B** by clicking the column header:



8. Click **Data** → **Flash Fill**:



9. Observe the results:

City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated Net Profit	Scorecard
Warner, NH	NH	Corporate	125319	65792	59527	4667	Average Revenue 270986.5
East Naton, RI	RI	Franchise	433924	101465	332459	5068	Highest Revenue 461214
Lyon, MA	MA	Partner	135816	67388	68428	5700	Lowest Expenses 65792
Willow Rur, NH	NH	Corporate	233255	83606	149649	5089	
Conyersvill, RI	RI	Franchise	128691	67175	61516	4956	
Mount Bak, NY	NY	Corporate	244913	89974	154939	5062	
Farmingtor, RI	RI	Franchise	392518	82675	309843	6100	
MarTins, CO	NH	Franchise	331773	85288	246485	5795	
Pickerele, MA	ME	Partner	244975	100834	144141	5153	
Willaha, NY	NY	Partner	137925	104528	33397	5673	
Center, MA	MA	Corporate	207163	73705	133458	5599	
Spring City, MA	MA	Partner	432326	79297	353029	4872	
Mittenlane, NY	NY	Partner	177789	103757	74032	5144	
East Water, ME	ME	Franchise	201945	83178	118767	4734	
Cotman, RI	RI	Corporate	461214	86688	374526	6066	
Scottsville, NJ	NJ	Partner	440462	81912	358550	4842	
Hebron, NH	NH	Partner	407339	88286	319053	4604	
Longview, MA	MA	Partner	376263	93698	282565	5195	
Emerson, NJ	NJ	Franchise	149134	87513	61621	5168	
						0	
						0	
						0	

10. Close the Excel browser tab to complete this activity.

TOPIC D: Working with Rows and Columns

The next level of working with data in Excel is modifying entire rows and columns. In this topic, we will learn about inserting, deleting, resizing, hiding, and showing rows and columns. We will also discuss the Clear feature, which allows you to clear contents and/or formatting from cells.

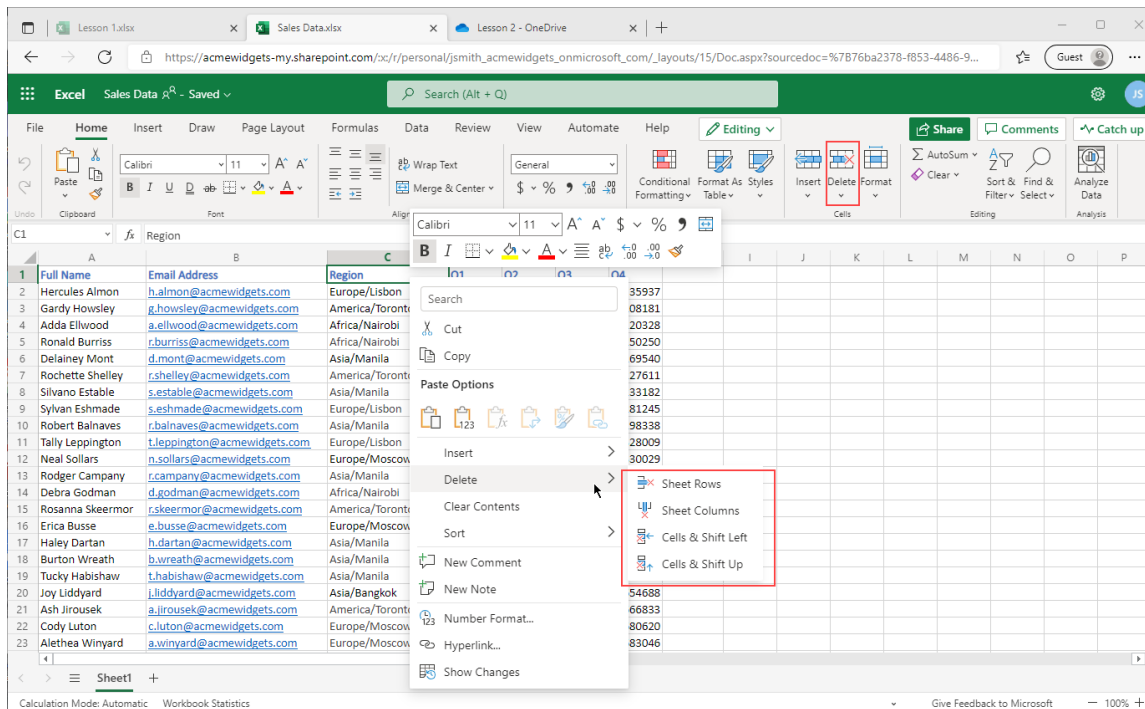
Topic Objectives

In this session, you will learn how to:

- Insert, delete, resize, hide, and unhide rows and columns
- Clear contents and formatting from cells

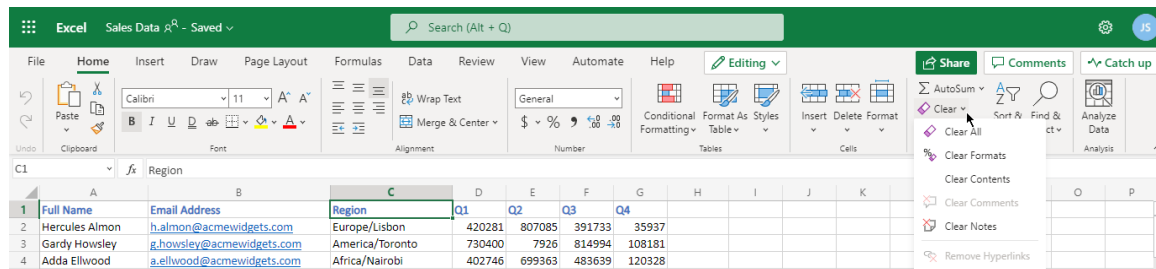
Deleting Rows and Columns

Deleting rows and columns works in the same way, with commands available on the **Home** tab and right-click menu:



Clearing Data from Cells

If you just want to clear the data from cells (rather than deleting the cell itself), you can do so by clicking **Home** → **Clear** → [object type]:

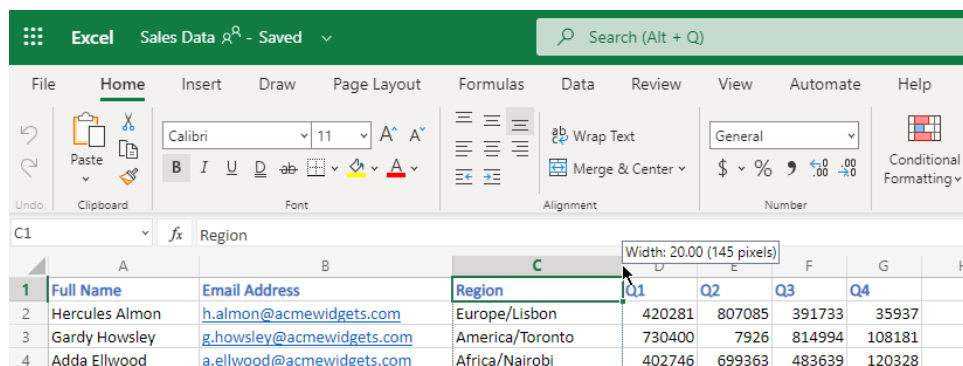


Alternatively, you can clear all of these objects at once by clicking **Home** → **Clear** → **Clear All**. As well, there is a **Clear Contents** command on the right-click menu.

Changing Column Width and Row Height

Sometimes it will be necessary to change the size of a row or column in order to display all the data in the cell. You also might want to change the size of a row or column just for appearance. In either case, resizing a row or column is quite easy.

To change the size of a column, place your mouse pointer on the line that divides the column headers. (For example, if you wanted to change the size of column C, you would place your mouse pointer on the line separating C and D.) Your cursor will turn into a vertical line with a small arrow on either side. When you see this pointer, click and hold the left mouse button to drag the column edge to the left or right. As you drag, you will see the size in pixels:



When you release your mouse, the size of the column will be changed. To change the size of a row, place your pointer on the line separating the row headers and then click and drag up or down to make the row larger or smaller:

	A	B
	Height: 33.00 (44 pixels)	Email Address
1	Rosanna Skeermor	r.skeermor@acmewidgets.com
2	Delainey Mont	d.mont@acmewidgets.com
3	Hardy Eyckel	h.eyckel@acmewidgets.com
4	Gardy Howsley	g.howsley@acmewidgets.com

There are more resizing commands available by clicking **Home** → **Format**:

The two Auto Fit commands will automatically size the row or column to their contents. The **Row Height** and **Column Width** commands will open a dialog box where you can enter the desired dimensions:

Row Height

Value

Default units ¹
 Pixels

Column Width

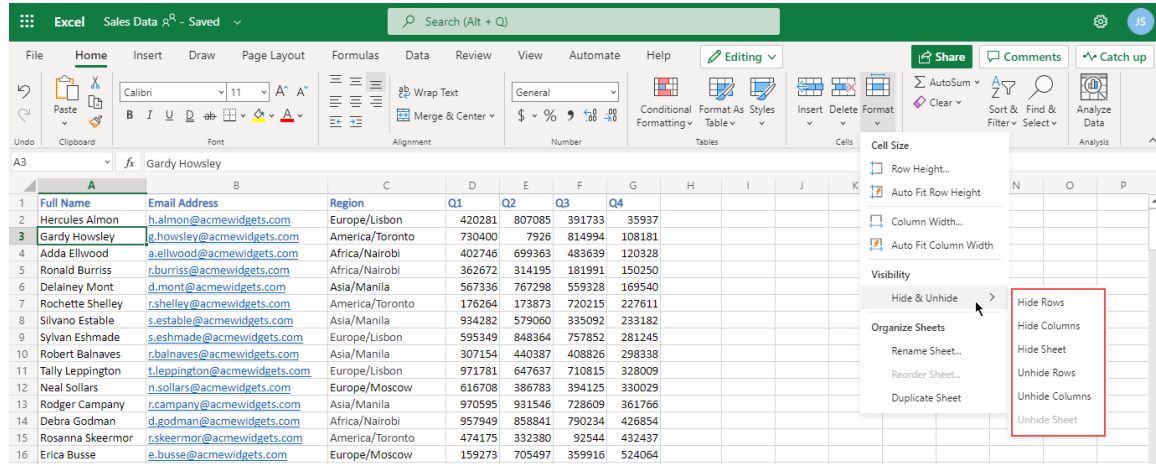
Value

Default units ¹
 Pixels

The Hide and Unhide Options

Excel also gives you the ability to temporarily hide particular rows and/or columns and then unhide them when necessary. To begin, select the row or column that you want to hide.

Then, click **Home** → **Format** → **Hide & Unhide**, and choose the desired option:



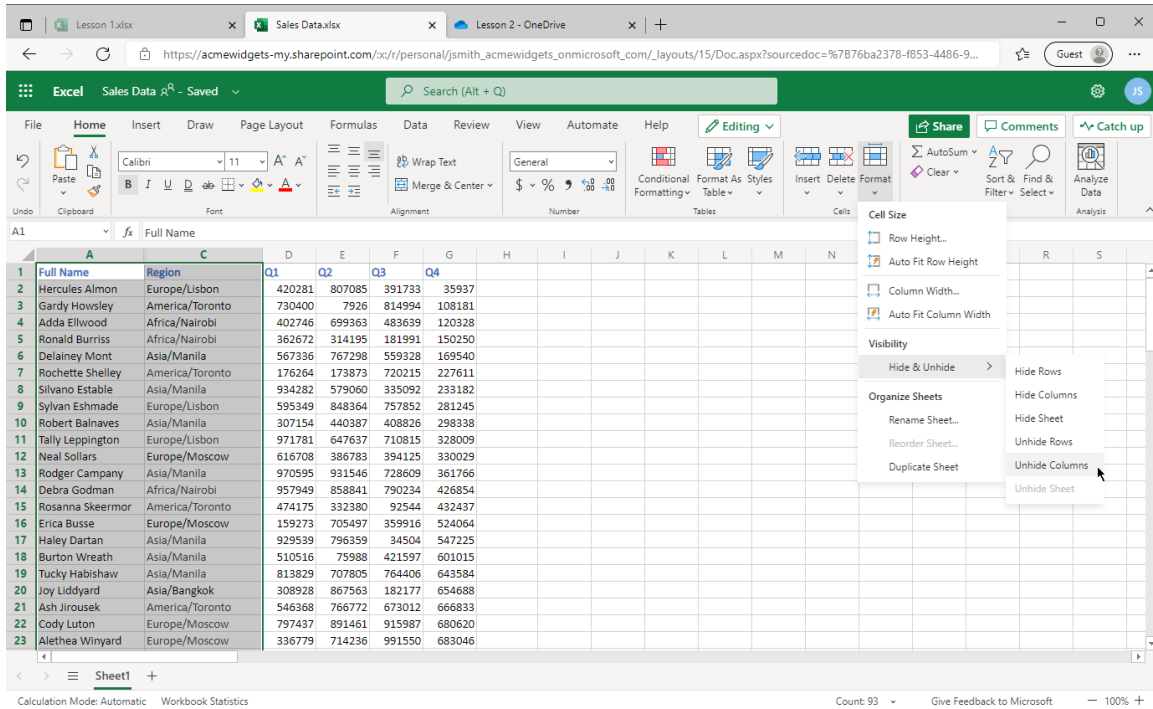
In this example, Column B is hidden:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home'. The formula bar contains the text 'Email Address'. The spreadsheet data is as follows:

	A	C	D	E	F	G	H
1	Full Name	Region	Q1	Q2	Q3	Q4	
2	Hercules Almon	Europe/Lisbon	420281	807085	391733	35937	
3	Gardy Howsley	America/Toronto	730400	7926	814994	108181	
4	Adda Ellwood	Africa/Nairobi	402746	699363	483639	120328	
5	Ronald Burriss	Africa/Nairobi	362672	314195	181991	150250	
6	Delainey Mont	Asia/Manila	567336	767298	559328	169540	
7	Rochette Shelley	America/Toronto	176264	173873	720215	227611	
8	Silvano Estable	Asia/Manila	934282	579060	335092	233182	
9	Sylvan Eshmade	Europe/Lisbon	595349	848364	757852	281245	
10	Robert Balnaves	Asia/Manila	307154	440387	408826	298338	
11	Tally Leppington	Europe/Lisbon	971781	647637	710815	328009	
12	Neal Sollars	Europe/Lisbon	616708	386783	394125	330029	
13	Rodger Campany	Asia/Manila	970595	931546	728609	361766	
14	Debra Godman	Africa/Nairobi	957949	858841	790234	426854	
15	Rosanna Skeermor	America/Toronto	474175	332380	92544	432437	
16	Erica Busse	Europe/Lisbon	159273	705497	359916	524064	
17	Haley Dartan	Asia/Manila	929539	796359	34504	547225	
18	Burton Wreath	Asia/Manila	510516	75988	421597	601015	

At the bottom of the interface, it shows 'Calculation Mode: Automatic' and 'Workbook Statistics'.

To reshove it, we would reselect the surrounding columns and click **Home** → **Format** → **Hide and Unhide** → **Unhide Columns**:

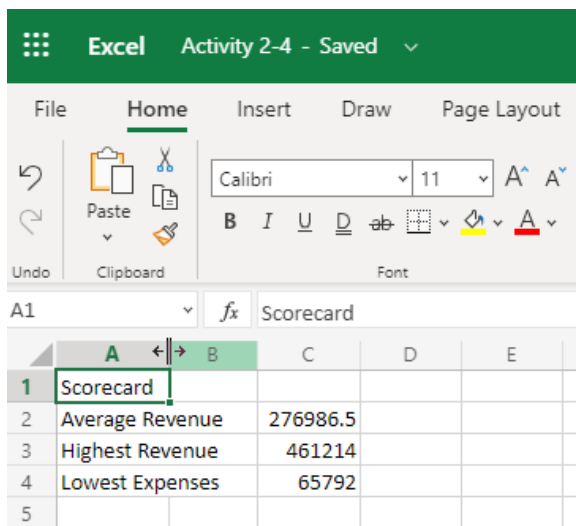


The column would then reappear as normal.

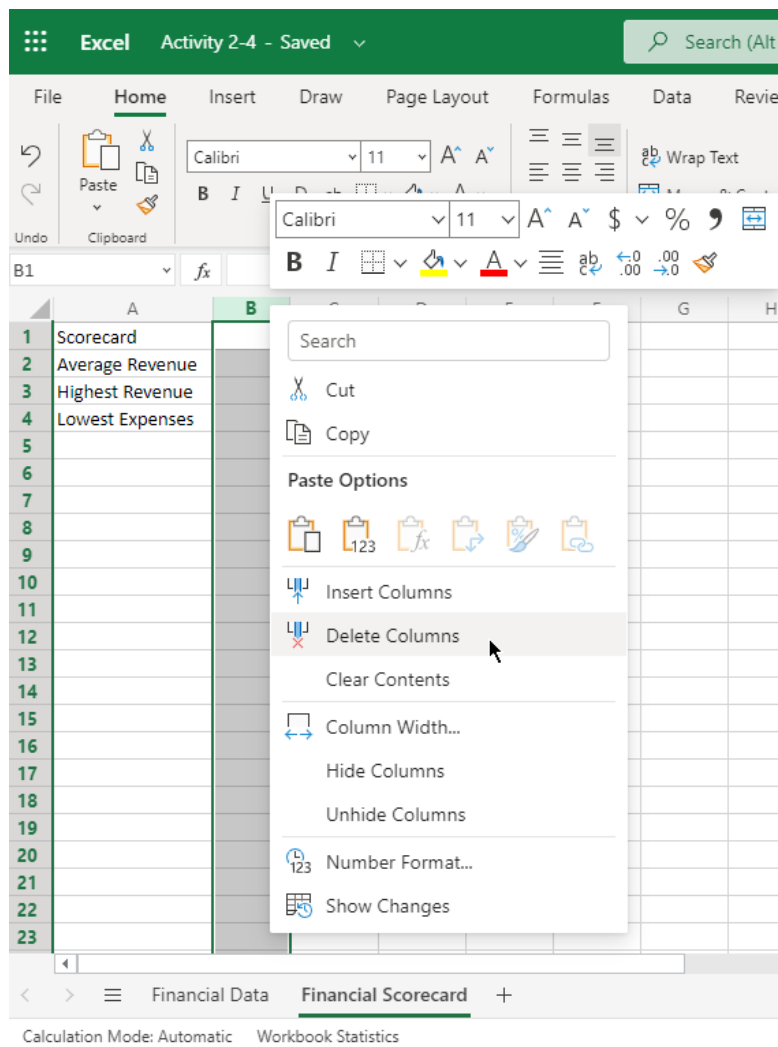
Activity 2-4: Working with Rows and Columns

In this activity, you will polish the appearance of your sales report.

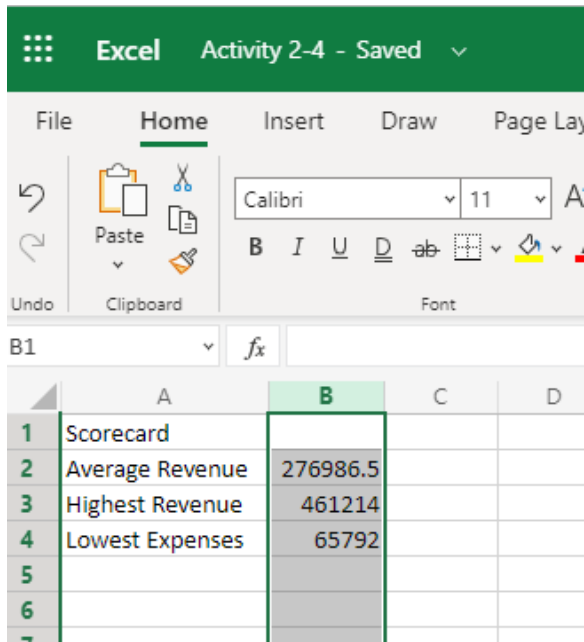
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 2-4 from OneDrive.
2. The Financial Scorecard worksheet should be open. (If not, click its tab to switch to it.) You can see that Column A overlaps Column B, which is actually blank. Double-click the separator between these two columns to automatically resize Column A:



- Now, right-click the Column B header and click **Delete Columns**:



4. The scorecard should look like this:



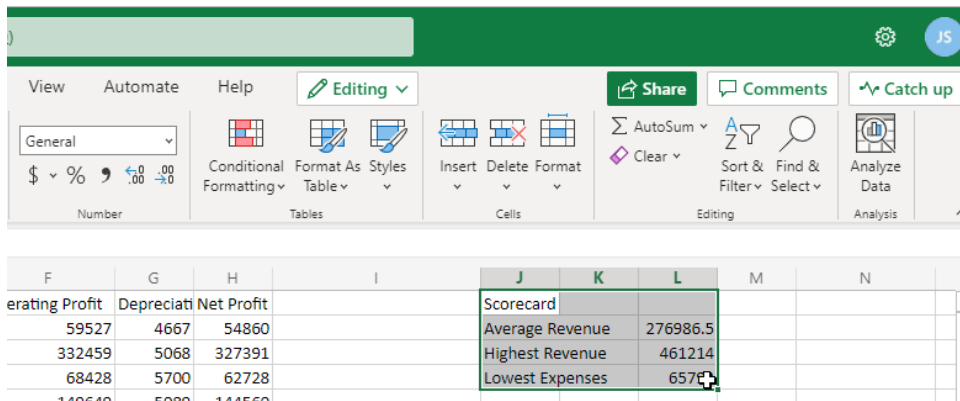
5. Now, switch to the Financial Data worksheet:

The screenshot shows the Microsoft Excel Online interface. The browser address bar displays the URL: https://acmewidgets-my.sharepoint.com/:x:/r/personal/jsmith_acr. The Excel ribbon is visible, with the 'Home' tab selected. The ribbon includes options for File, Home, Insert, Draw, Page Layout, Formulas, Data, and Review. The 'Home' ribbon shows options for Undo, Paste, Font (Calibri, size 11), Bold (B), Italic (I), Underline (U), and Alignment (Wrap Text, Merge & Center). The formula bar shows 'B1' and the formula 'fx'. The worksheet grid shows columns A through H and rows 1 through 18. The data in the grid is as follows:

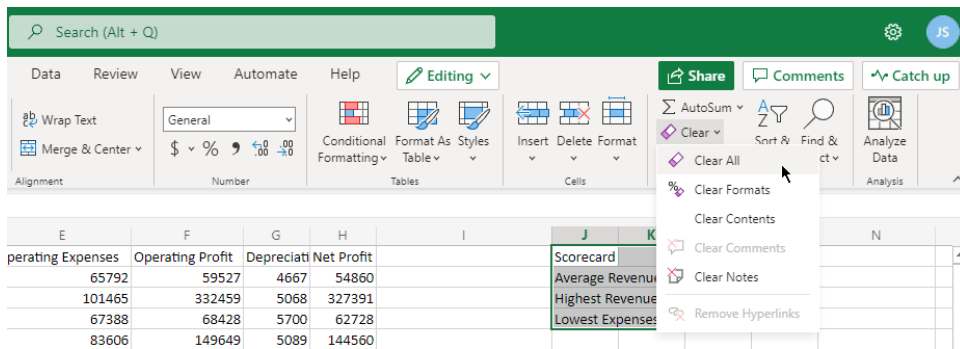
	A	B	C	D	E	F	G	H
1	Scorecard							
2	Average Revenue	276986.5						
3	Highest Revenue	461214						
4	Lowest Expenses	65792						
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								

The 'Financial Data' worksheet is selected, and the 'Financial Scorecard' worksheet is visible in the background. The status bar at the bottom shows 'Calculation Mode: Automatic' and 'Workbook Statistics'.

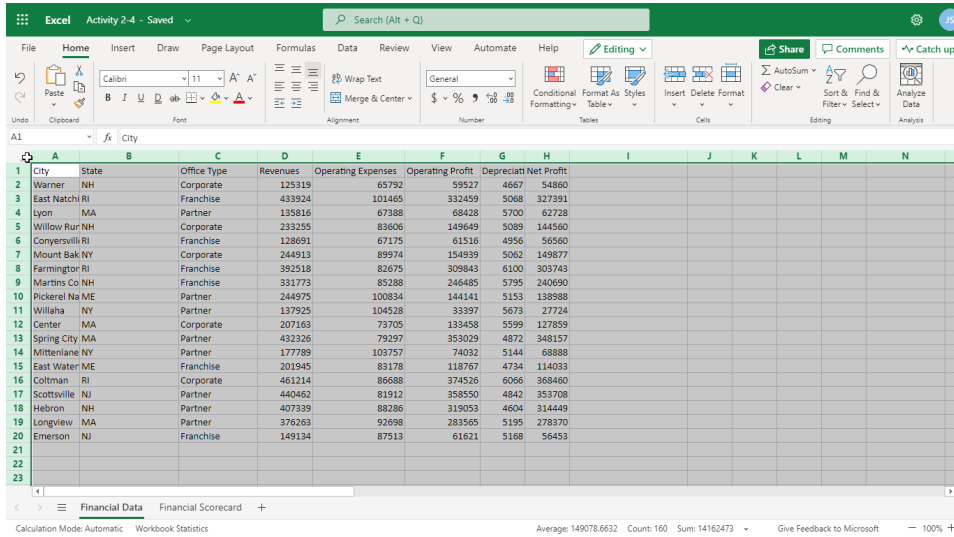
- The scorecard data is duplicated on this sheet, so let's remove it. Select cells **J1 to L4**:



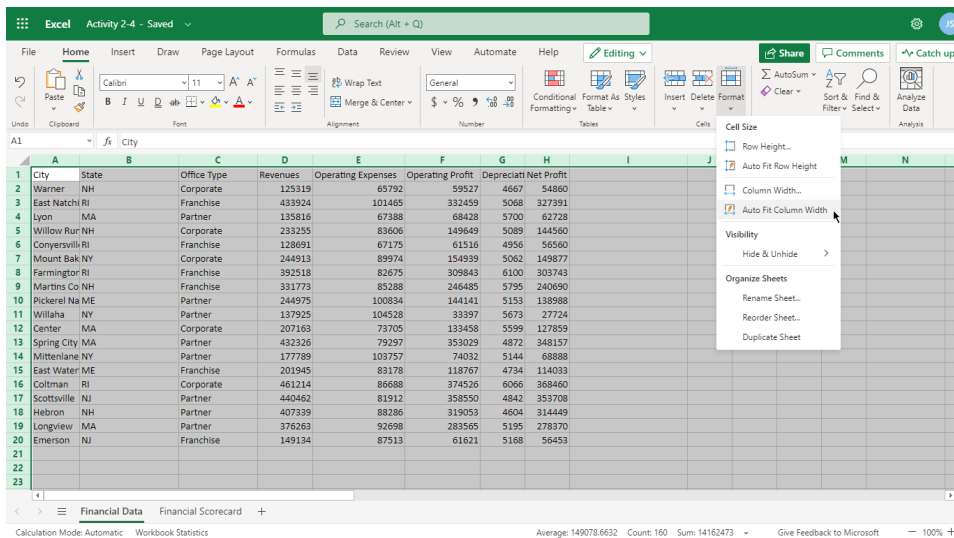
- Click **Home** → **Clear** dropdown arrow → **Clear All**:



- The data will now be removed. Finally, let's resize this sheet's columns. Since we have many columns to resize, we will use a slightly different method. Click the selector icon in the top left corner of the data to select the entire worksheet:



- Click **Format** → **Auto Fit Column Width**:



10. Review the results:

City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
Warner	NH	Corporate	125319	65792	59527	4667	54860
East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391
Lyon	MA	Partner	135816	67388	68428	5700	62728
Willow Run	NH	Corporate	233255	83606	149649	5089	144560
Conyersville	RI	Franchise	128691	67175	61516	4956	56560
Mount Baker	NY	Corporate	244913	89974	154939	5062	149877
Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743
Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
Pickrel Narrows	ME	Partner	244975	100834	144141	5153	138988
Willaha	NY	Partner	137925	104528	33397	5673	27724
Center	MA	Corporate	207169	73705	133464	5399	127859
Spring City	MA	Partner	422326	79297	353029	4872	348157
Mittlenane	NY	Partner	177789	103757	74032	5144	68888
East Waterford	ME	Franchise	201945	83178	118767	4734	114033
Coltman	RI	Corporate	461214	86688	374526	6066	368460
Scottsville	NJ	Partner	440462	81912	358550	4842	353708
Hebron	NH	Partner	407339	88286	319053	4604	314449
Longview	MA	Partner	376263	92698	283565	5195	278370
Emerson	NJ	Franchise	149134	87513	61621	5168	56453

11. Close the Excel browser tab to complete this activity.

TOPIC E: Sorting and Filtering Data

Excel's sort and filter commands allow you to change the display of data, or refine the data shown. In this topic, you will learn about the differences between the two commands and how to use each feature.

Topic Objectives

In this session, you will learn how to:

- Describe the differences between sorting and filtering
- Sort data
- Enable filtering
- Use the Filter dialog box and text filters
- Clear a filter

The Difference Between Sorting and Filtering

Sorting allows you to change the order of data; text-based and numerical data can be sorted in ascending or descending order. It is important to keep in mind that when you sort data you are not changing the data in the worksheet; you are only changing how it is displayed. Additionally, while there is no option to clear a sort and return it back to its original state, the Undo command has the same effect. Finally, if you apply a sort and then save your workbook, the sort will also be saved. This means that if you need to undo a sort, you can only do it in the same session as when the sort was applied.

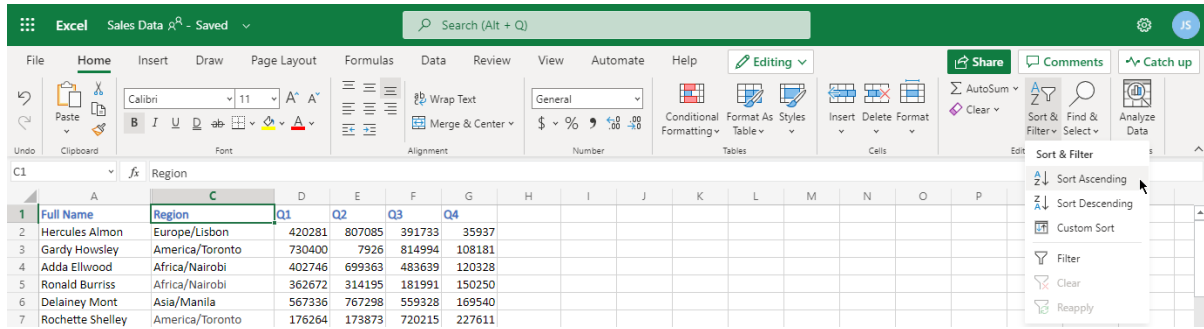
Filtering is a bit different; it allows you to customize data that is displayed, based on criteria of your choosing. For example, if you only wanted to show sales results from representatives in the Northern region, you could use a filter to do that.

Sorting Data

In this example, we would like to arrange the data in alphabetical order by the Region column. Right now, it is in random order:

	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
2	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937	
3	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181	
4	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328	
5	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250	
6	Delaine Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
7	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611	
8	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
9	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	595349	848364	757852	281245	
10	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
11	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	971781	647637	710815	328009	
12	Neal Sollars	n.sollars@acmewidgets.com	Europe/Lisbon	616708	386783	394125	330029	
13	Rodger Company	r.company@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
14	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854	
15	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437	
16	Erica Busse	e.busse@acmewidgets.com	Europe/Lisbon	159273	705497	359916	524064	
17	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
18	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
19	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	
20	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688	
21	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833	
22	Cody Luton	c.luton@acmewidgets.com	Europe/Lisbon	797437	891461	915987	680620	
23	Althea Winward	a.winward@acmewidgets.com	Europe/Lisbon	336778	714236	881550	683046	

To do this, we will select the column header (cell C1) and click **Home** → **Sort & Filter**. We can now choose an ascending or descending sort:

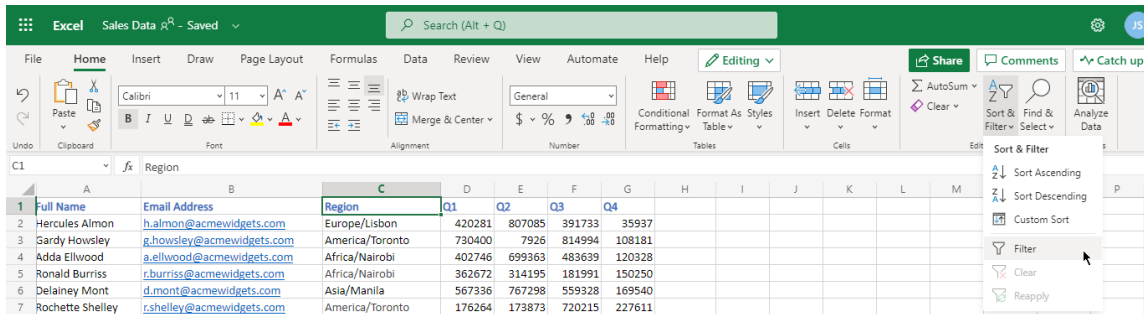


For this example, we chose an ascending (A to Z) sort. Here are the results:

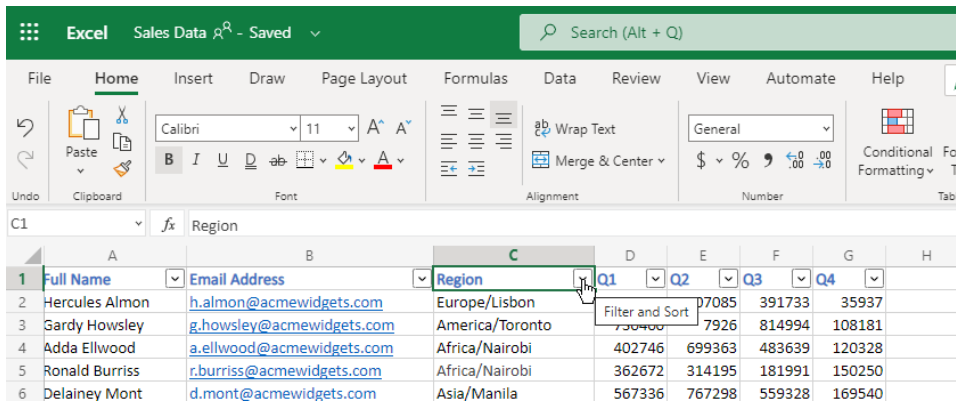
	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328	
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250	
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854	
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181	
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611	
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437	
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833	
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156	
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950	
11	Delaine Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	
18	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688	
19	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	838056	656136	183799	731530	
20	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Manila	78557	192961	950871	834403	
21	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	366306	115862	350344	884357	
22	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937	
23	Sylvan Fehmade	s.fehmade@acmewidgets.com	Europe/Lisbon	595319	818361	757852	281215	

Enabling Filtering

To enable filtering, click **Home** → **Sort and Filter** → **Filter**:



This will add AutoFilter dropdown arrows to the top of each column. Click the arrow for the column you want to filter:



This dialog box will populate with all of the values from the selected column. Uncheck a set of values to hide it, or check it to show it. Or, you can choose to create a text filter. When you are finished, click **APPLY** to apply your settings:

The screenshot shows the Microsoft Excel Online interface with a data table. The 'Region' column is selected, and a filter dialog box is open. The dialog box contains the following options:

- Sort A to Z
- Sort Z to A
- Custom Sort
- Sheet View
- Clear Filter from 'Region'
- Text Filters
 - Select All
 - Africa/Nairobi
 - America/Toronto
 - Asia/Bangkok
 - Asia/Manila
 - Europe/Lisbon
 - Europe/Moscow
- Apply

The data table contains the following information:

Full Name	Email Address	Region
Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi
Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi
Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi
Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto
Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto
Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto
Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto
Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto
Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto
Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Bangkok
Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Bangkok
Ebonee Louch	e.louch@acmewidgets.com	Asia/Bangkok
Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok
Delainey Mont	d.mont@acmewidgets.com	Asia/Manila
Silvano Estable	s.estable@acmewidgets.com	Asia/Manila
Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila
Rodger Campany	r.campany@acmewidgets.com	Asia/Manila
Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila
Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila
Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila
Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon
Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon

The data will then be filtered. Notice the icon on the **Region AutoFilter** menu which indicates the data has been filtered by this column:

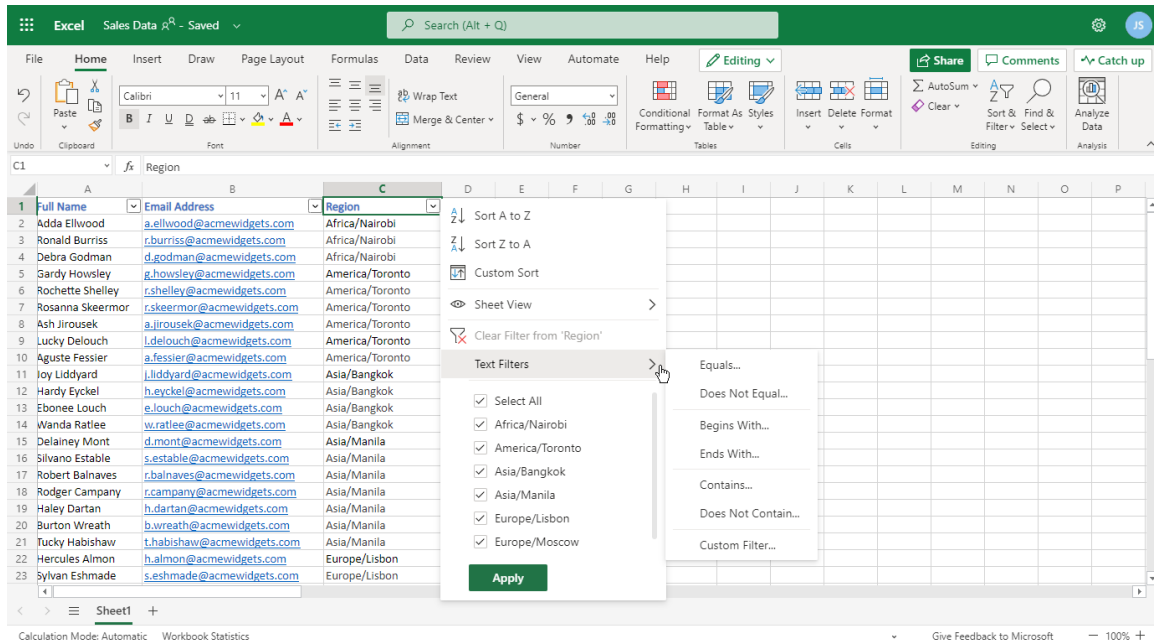
	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
11	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	
18	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688	
19	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	838056	656136	183799	731530	
20	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Manila	78557	192961	950871	834403	
21	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	366306	115862	350344	884357	
22	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937	
23	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	595349	848364	757852	281245	
24	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	971781	647637	710815	328009	
25	Neal Sollars	n.sollars@acmewidgets.com	Europe/Lisbon	616708	386783	394125	330029	
26	Erica Busse	e.busse@acmewidgets.com	Europe/Lisbon	159273	705497	359916	524064	
27	Cody Luton	c.luton@acmewidgets.com	Europe/Lisbon	797437	891461	915987	680620	

Sheet1

Calculation Mode: Automatic Workbook Statistics

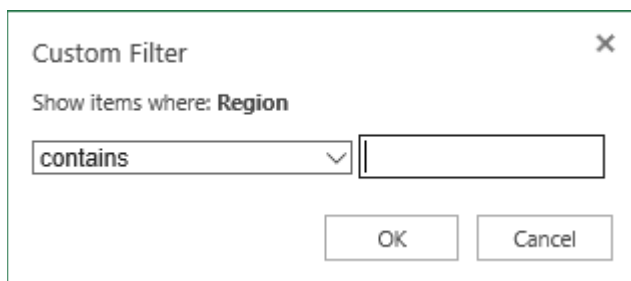
Using Text Filters

Next, let's explore the Text Filters sub-menu:



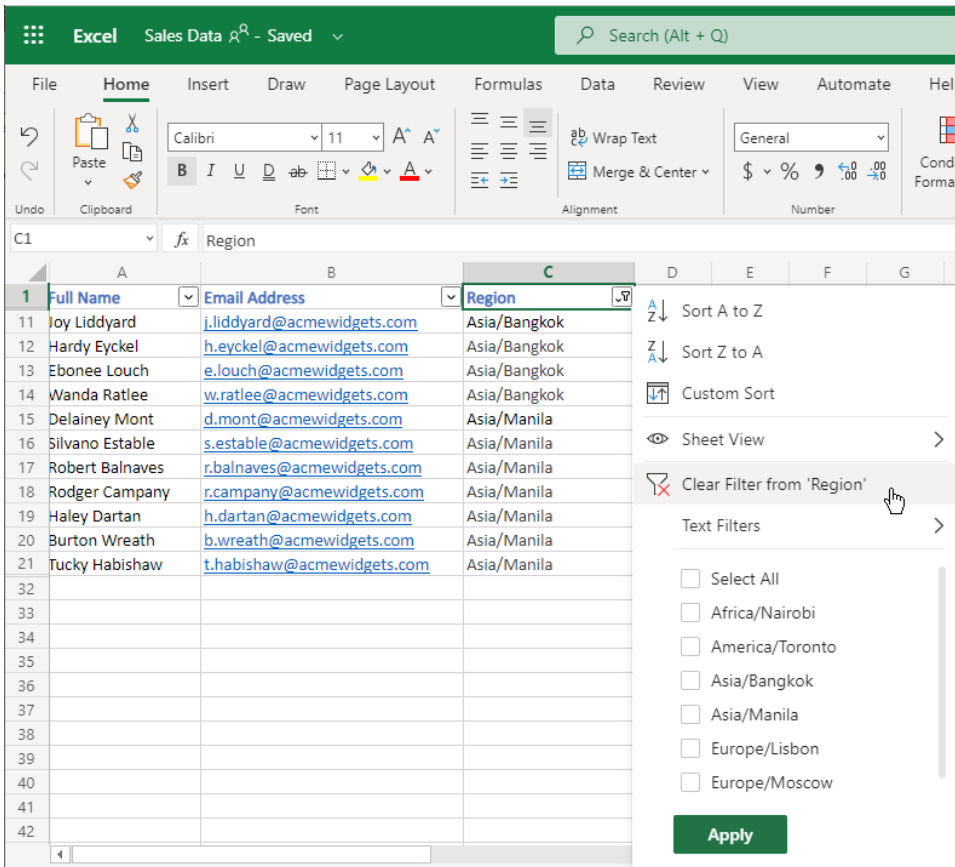
Clicking each of the commands in this sub-menu will open the Custom Filter dialog box pre-populated with the selected operator. (The **Custom Filter** command itself will open a blank dialog box.) You can then enter the criteria required.

For this example, let's choose "contains" from the **Text Filters** menu. The Custom Filter dialog box will open:

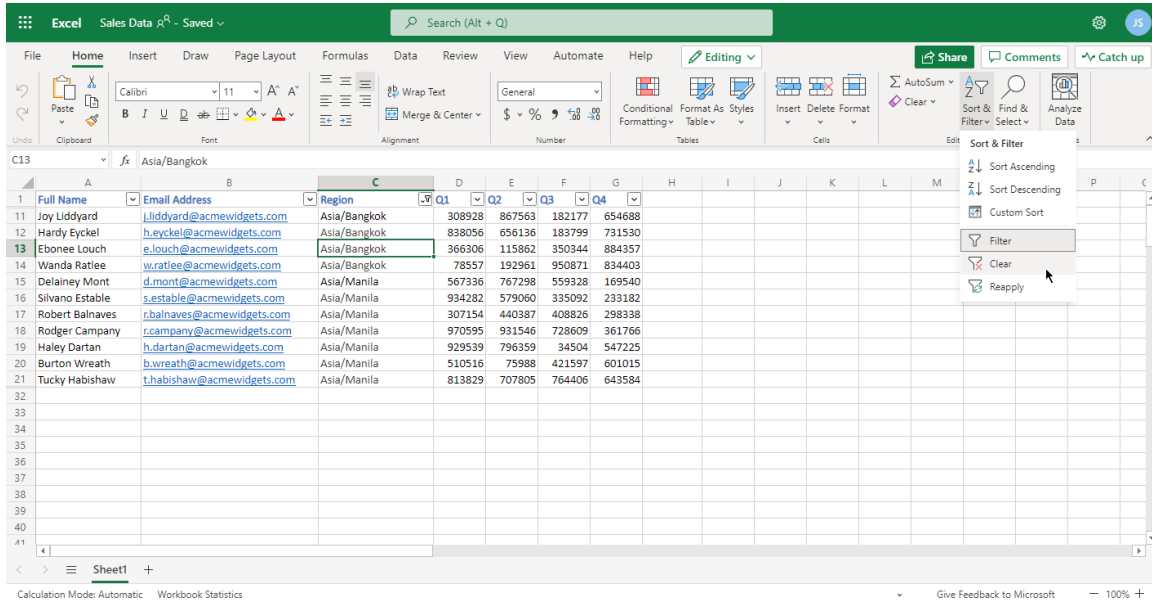


Clearing a Filter

There are two ways to clear a filter and display all the data once again. You can click the **AutoFilter** arrow and click **Clear Filter** from <field name>:



Or, place your cursor in the filtered column and click **Home** → **Sort & Filter** → **Clear**:



With either command, the filter will be cleared, and all data will be displayed.

Activity 2-5: Sorting and Filtering Data

You have been asked to present the sales report data by state and to exclude all corporate information. You will use Excel Online’s sorting and filtering tools to accomplish these tasks.

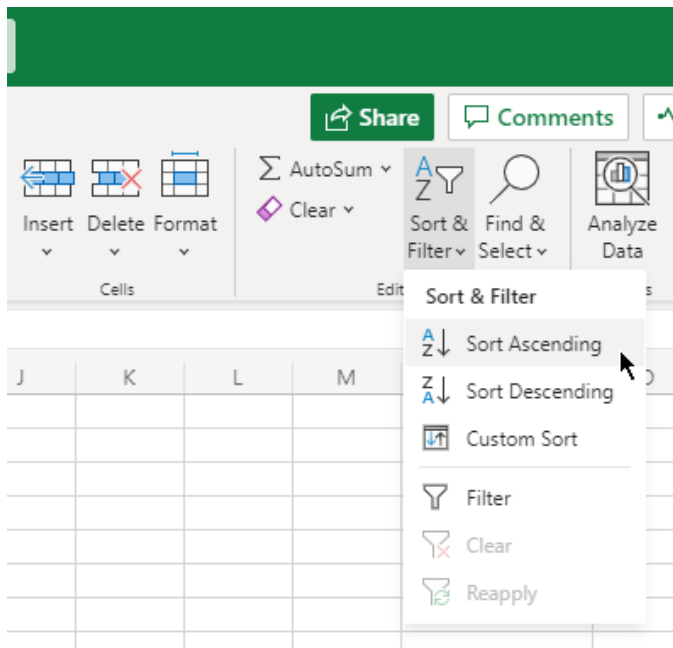
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 2-5 from OneDrive.
2. Our first task is to sort the data by state. Select cells **B2 to B20**:

The screenshot shows the Microsoft Excel Online interface. The title bar indicates the file is 'Activity 2-5 - Saved'. The ribbon is set to 'Home', showing options for font (Calibri, size 11) and alignment (General, Merge & Center). The spreadsheet data is as follows:

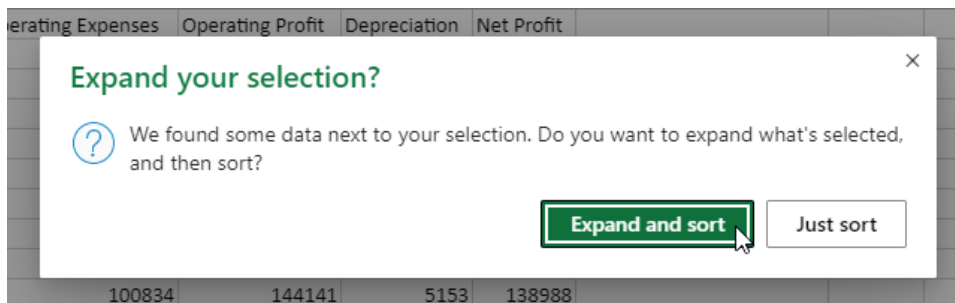
	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	NH	Corporate	125319	65792	59527	4667	54860
3	East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728
5	Willow Run	NH	Corporate	233255	83606	149649	5089	144560
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560
7	Mount Baker	NY	Corporate	244913	89974	154939	5062	149877
8	Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
10	Pickrel Narrows	ME	Partner	244975	100834	144141	5153	138988
11	Willaha	NY	Partner	137925	104528	33397	5673	27724
12	Center	MA	Corporate	207163	73705	133458	5599	127859
13	Spring City	MA	Partner	432326	79297	353029	4872	348157
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
15	East Waterford	ME	Franchise	201945	83178	118767	4734	114033
16	Coltman	RI	Corporate	461214	86688	374526	6066	368460
17	Scottsville	NJ	Partner	440462	81912	358550	4842	353708
18	Hebron	NH	Partner	407339	88286	319053	4604	314449
19	Longview	MA	Partner	376263	92698	283565	5195	278370
20	Emerson	NJ	Franchise	149134	87513	61621	5168	56453
21								
22								

The bottom of the interface shows the 'Financial Data' tab selected, with 'Financial Scorecard' also visible. The status bar at the bottom indicates 'Calculation Mode: Automatic' and 'Workbook Statistics'.

3. Now, click **Home** → **Sort & Filter** → **Sort Ascending**:



4. A message will appear asking whether you would like to expand your selection. Click **Expand and sort** to apply the change to the entire worksheet:



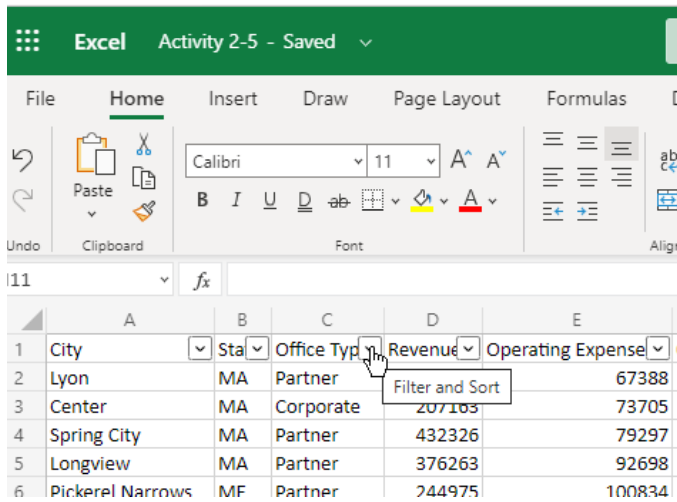
5. Review the results:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Lyon	MA	Partner	135816	67388	68428	5700	62728
3	Center	MA	Corporate	207163	73705	133458	5599	127859
4	Spring City	MA	Partner	432326	79297	353029	4872	348157
5	Longview	MA	Partner	376263	92698	283565	5195	278370
6	Pickarel Narrows	ME	Partner	244975	100834	144141	5153	138988
7	East Waterford	ME	Franchise	201945	83178	118767	4734	114033
8	Warner	NH	Corporate	125319	65792	59527	4667	54860
9	Willow Run	NH	Corporate	233255	83606	149649	5089	144560
10	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
11	Hebron	NH	Partner	407339	88286	319053	4604	314449
12	Scottsville	NJ	Partner	440462	81912	358550	4842	353708
13	Emerson	NJ	Franchise	149134	87513	61621	5168	56453
14	Mount Baker	NY	Corporate	244913	89974	154939	5062	149877
15	Willaha	NY	Partner	137925	104528	33397	5673	27724
16	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
17	East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391
18	Conyersville	RI	Franchise	128691	67175	61516	4956	56560

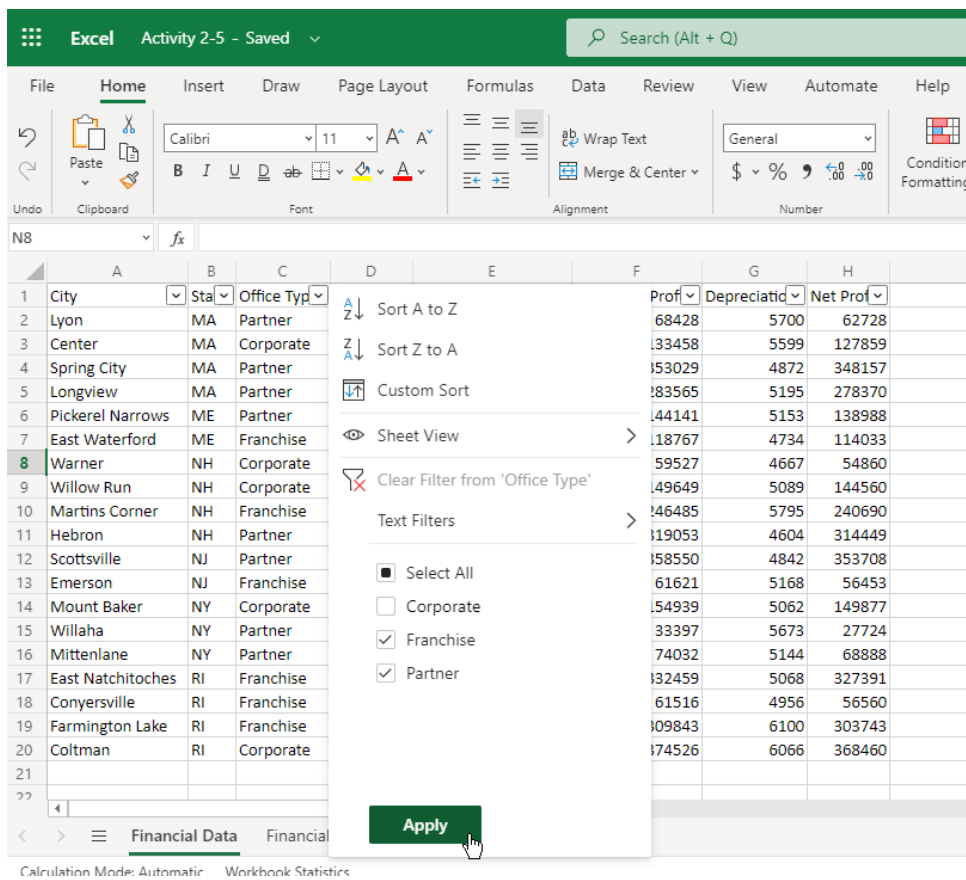
6. Now we want to filter out the corporate data. Press **Ctrl + A** on your keyboard to elect the entire worksheet. Then, click **Home → Sort & Filter → Filter**:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Lyon	MA	Partner	135816	67388	68428	5700	62728
3	Center	MA	Corporate	207163	73705	133458	5599	127859
4	Spring City	MA	Partner	432326	79297	353029	4872	348157
5	Longview	MA	Partner	376263	92698	283565	5195	278370
6	Pickarel Narrows	ME	Partner	244975	100834	144141	5153	138988
7	East Waterford	ME	Franchise	201945	83178	118767	4734	114033
8	Warner	NH	Corporate	125319	65792	59527	4667	54860
9	Willow Run	NH	Corporate	233255	83606	149649	5089	144560
10	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
11	Hebron	NH	Partner	407339	88286	319053	4604	314449
12	Scottsville	NJ	Partner	440462	81912	358550	4842	353708
13	Emerson	NJ	Franchise	149134	87513	61621	5168	56453
14	Mount Baker	NY	Corporate	244913	89974	154939	5062	149877
15	Willaha	NY	Partner	137925	104528	33397	5673	27724
16	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
17	East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391
18	Conyersville	RI	Franchise	128691	67175	61516	4956	56560
19	Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743
20	Coltman	RI	Corporate	461214	86688	374526	6066	368440

- Click a blank cell to deactivate the selection. Then, click the dropdown arrow in cell C1 (Office Type):



- Uncheck the box for Corporate and click **APPLY**:



- Review the results, and note the **AutoFilter** icon in cell C1:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home'. The data table below has columns for City, State, Office Type, Revenue, Operating Expense, Operating Profit, Depreciated, and Net Profit. Each header cell in row 1 contains a small downward-pointing arrow icon, indicating that AutoFilter is applied to all columns. The 'Office Type' header in cell C1 is highlighted with a red box.

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenue	Operating Expense	Operating Profit	Depreciated	Net Profit
2	Lyon	MA	Partner	135816	67388	68428	5700	62728
4	Spring City	MA	Partner	432326	79297	353029	4872	348157
5	Longview	MA	Partner	376263	92698	283565	5195	278370
6	Pickrel Narrows	ME	Partner	244975	100834	144141	5153	138988
7	East Waterford	ME	Franchise	201945	83178	118767	4734	114033
10	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
11	Hebron	NH	Partner	407339	88286	319053	4604	314449
12	Scottsville	NJ	Partner	440462	81912	358550	4842	353708
13	Emerson	NJ	Franchise	149134	87513	61621	5168	56453
15	Willaha	NY	Partner	137925	104528	33397	5673	27724
16	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
17	East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391
18	Conyersville	RI	Franchise	128691	67175	61516	4956	56560
19	Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743
21								

- Close the Excel browser tab to complete this activity.

Summary

This lesson introduced you to many different aspects of working with data. We started out with a look at formulas and functions. We then looked at working with data as a whole and managing rows and columns. Finally, we learned how to customize data display with sort and filter.

Review Questions

1. List one way to open the Insert Function dialog box.
2. How do you enable filtering?
3. How is Flash Fill different from AutoFill?
4. In this equation, which operation will be evaluated first ? $(5*10)+40/3$
5. What is the easiest way to completely clear a cell using the ribbon interface?

LESSON 3: FORMATTING A WORKSHEET

Lesson Objectives

In this lesson you will learn how to:

- Format text and cells
- Align cell contents
- Use Find and Select tools
- Apply conditional formatting

TOPIC A: Formatting Text

Excel contains many of the text formatting tools that you might be familiar with from other Microsoft Office applications, such as Word or PowerPoint. In this topic, we will learn about different font options, as well as how to use the Format Painter and create hyperlinks.

Topic Objectives

In this session, you will learn:

- About fonts and the Font group on the Home tab
- How to use the Format Painter
- How to create hyperlinks

What is a Font?

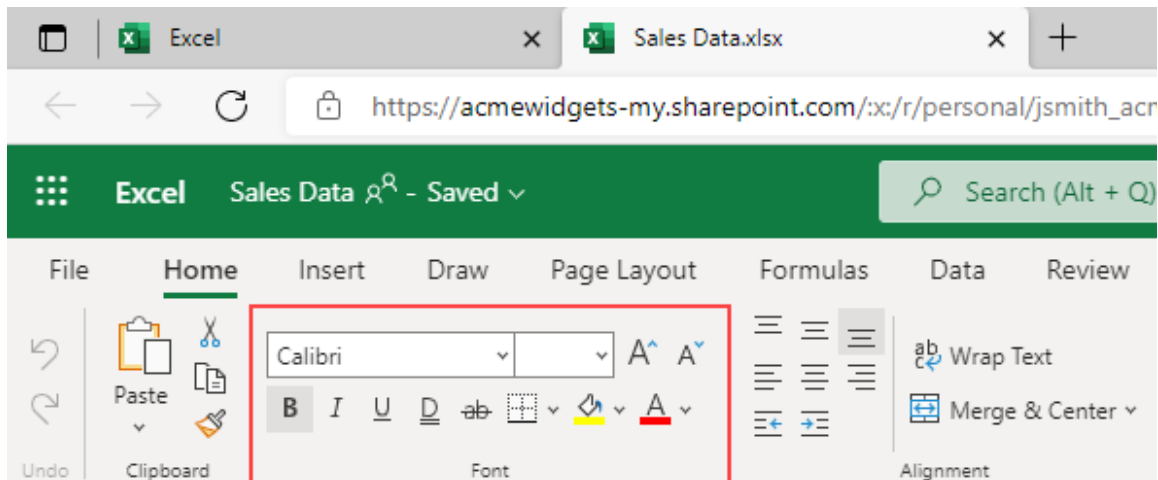
A font is a complete set of characters (with typeface and style) that are used to create text. Fonts are very customizable: you can change their size, type, and color to create just the effect you are looking for. Note, however, that you will have fewer font faces and formatting options in Excel Online than the desktop application.

Here is a sample of a few different fonts:

	A	B
1	Font Example 1	<u>Font Example 2</u>
2	<i>Font Example 3</i>	Font Example 4

The Font Group

Naturally, the **Font** group of the **Home** tab is where you will find most font commands. You can choose the font face, size, color, and effects here:



The top row of this group contains commands to:

- Change the font face
- Change the font size
- Nudge the font size up or down

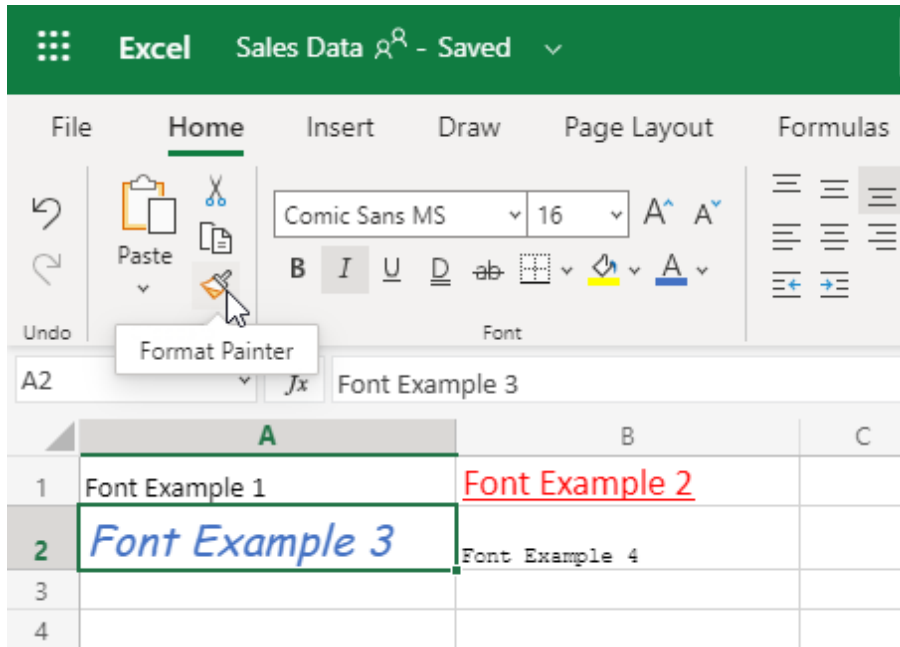
The bottom row of this group contains commands to:

- Apply bold, italic, underline, double underline, and strikethrough effects
- Format cell borders
- Add shading to cells
- Change the font color

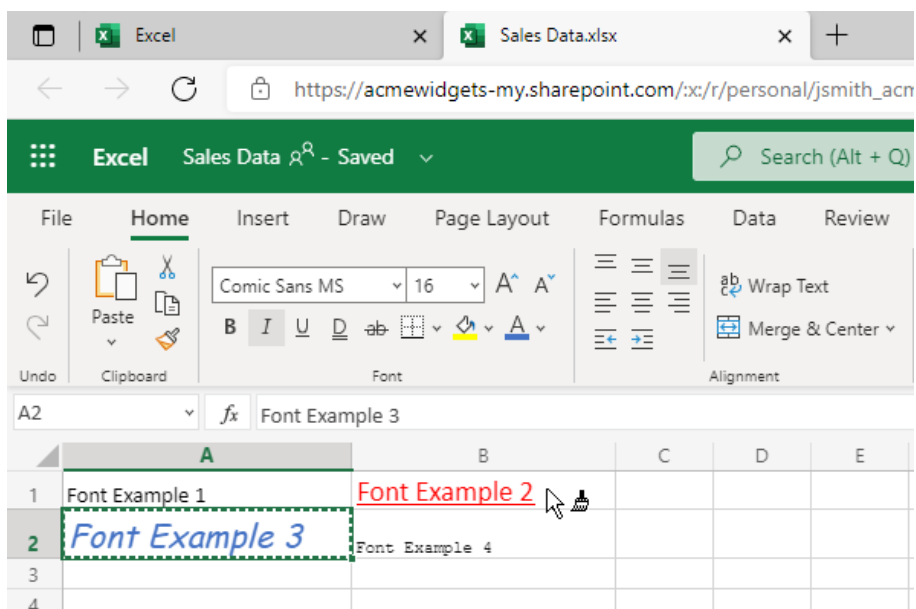
The Format Painter

With the Format Painter, you can copy just the formatting from one cell and apply it to others in your worksheet. To use the Format Painter, select a cell and then click **Home** →

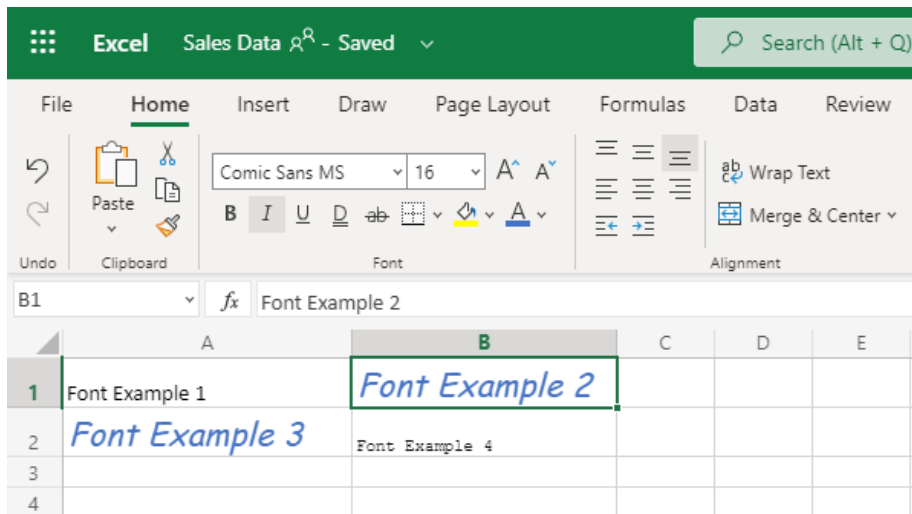
Format Painter:



The cell that you selected will be identified with a scrolling dashed border and your mouse pointer will now have a paintbrush beside it. Now, any cell or range you select will assume the formatting of the cell that you selected:



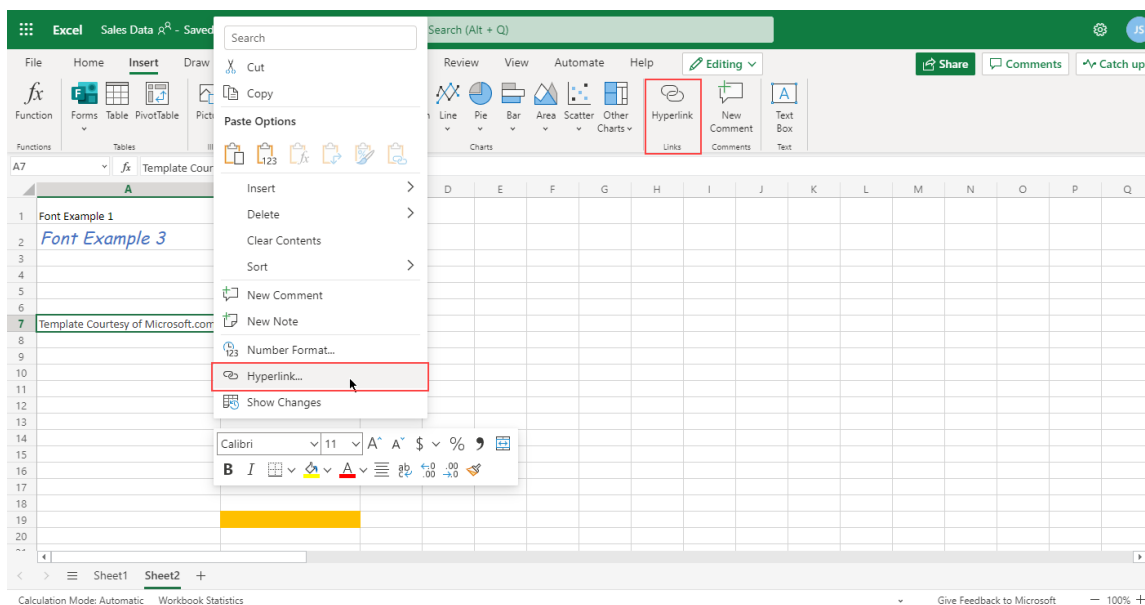
Here are the results of this example:



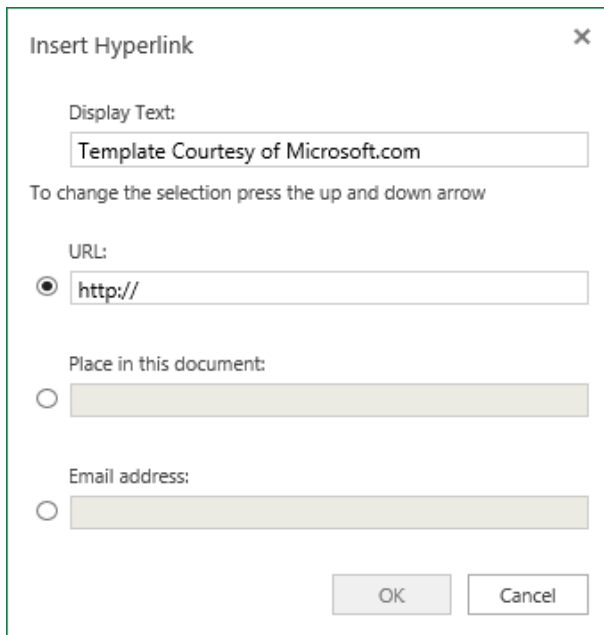
The Format Painter will then automatically turn off. You can also click the command again or press **Esc** to cancel the process while the Format Painter is activated.

Creating Links

To create a hyperlink, select the text or object to which you want to add the link. Then, click the **Hyperlink** command on the **Insert** tab or right-click menu:



With either method, the Insert Hyperlink dialog box will open:



Insert Hyperlink

Display Text:
Template Courtesy of Microsoft.com

To change the selection press the up and down arrow

URL:
 http://

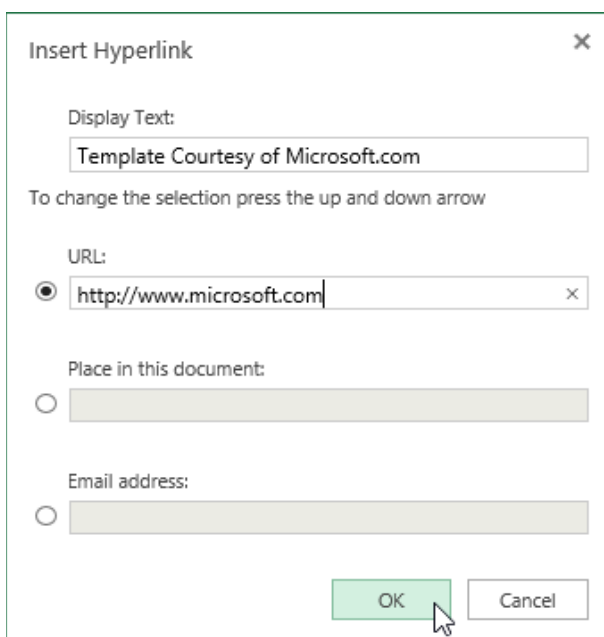
Place in this document:

Email address:

OK Cancel

At the top of this dialog box, you can change the text displayed in the cell containing the link. Then, use the radio buttons at the bottom of the dialog box to choose whether you want to link to a URL, place within the workbook, or use an email address. Finally, enter the related information in the selected field.

Here, we have linked to the URL "<http://www.microsoft.com>". Click **OK** to create the link:



Insert Hyperlink

Display Text:
Template Courtesy of Microsoft.com

To change the selection press the up and down arrow

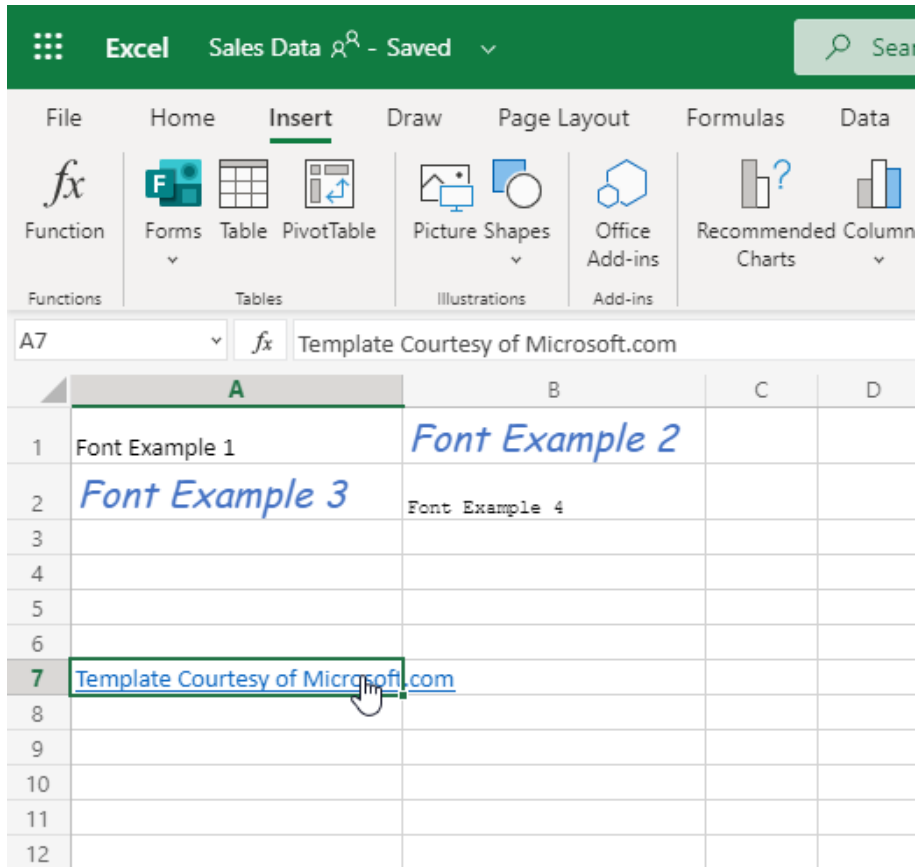
URL:
 http://www.microsoft.com

Place in this document:

Email address:

OK Cancel

Your changes will be applied. You can follow the link by clicking the cell:



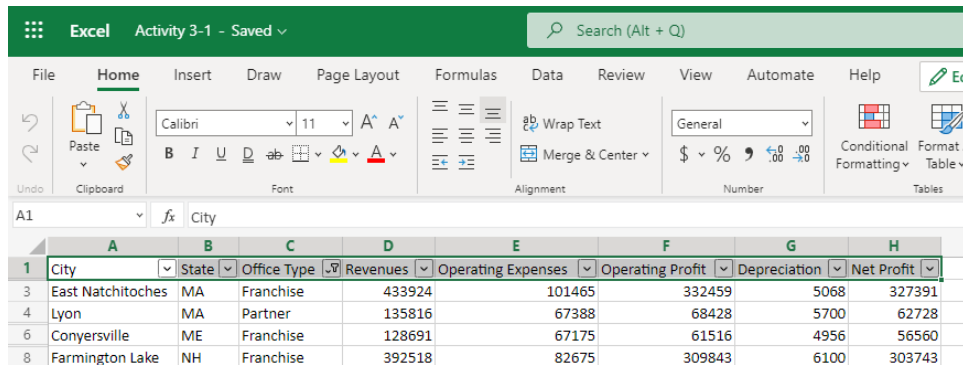
The screenshot shows the Microsoft Excel Online interface. The title bar indicates the file is named "Sales Data" and is saved. The ribbon is set to the "Insert" tab, with sub-tabs for Functions, Tables, Illustrations, Add-ins, and Charts. The active cell is A7, which contains the text "Template Courtesy of Microsoft.com" and is highlighted with a blue border and a mouse cursor. The spreadsheet grid shows columns A, B, C, and D, and rows 1 through 12. Other cells contain text examples: B1 has "Font Example 2" in blue italic font, A2 has "Font Example 3" in blue italic font, and B2 has "Font Example 4".

To modify the hyperlink, perform the **Insert Hyperlink** command again. To remove it, use the **Clear** command on the **Home** tab.

Activity 3-1: Formatting Text

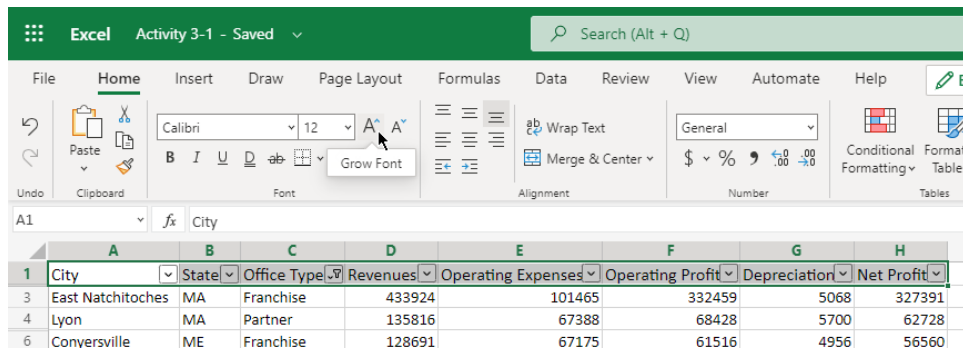
In this activity, you will format header rows and a title in your worksheet.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 3-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. First, let's format the header row of the Financial Data sheet. Select Row 1:



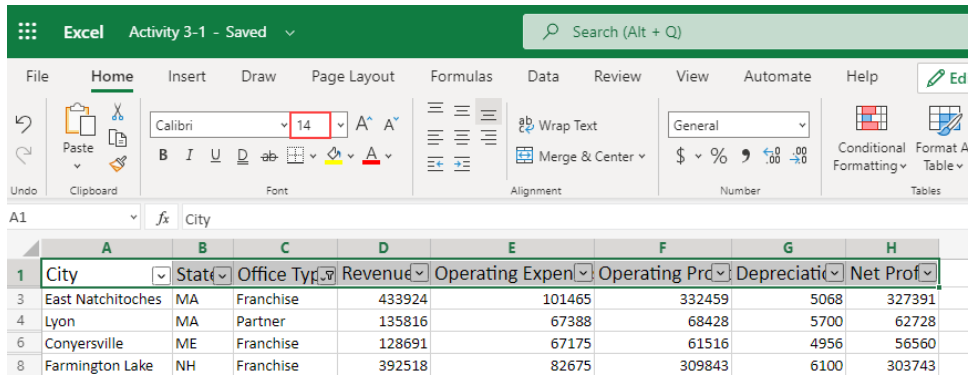
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728
6	Conyersville	ME	Franchise	128691	67175	61516	4956	56560
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	303743

3. Click the **Grow Font** button twice:

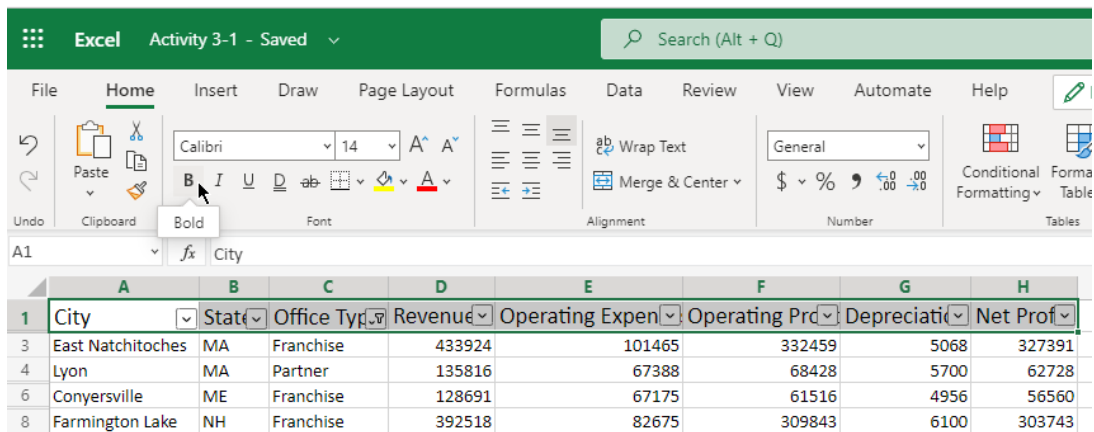


1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728
6	Conyersville	ME	Franchise	128691	67175	61516	4956	56560

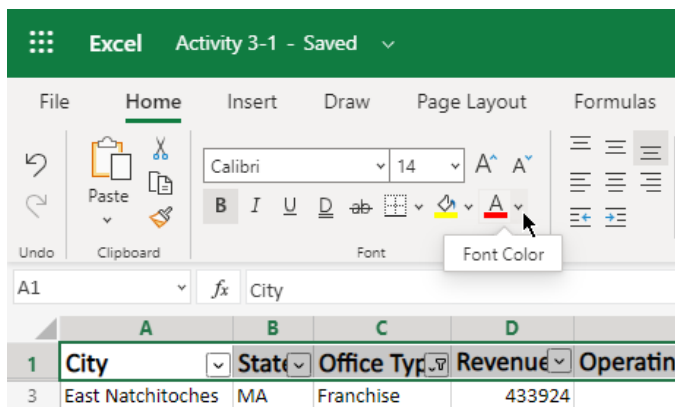
- The value in the **Size** menu should now be 14:



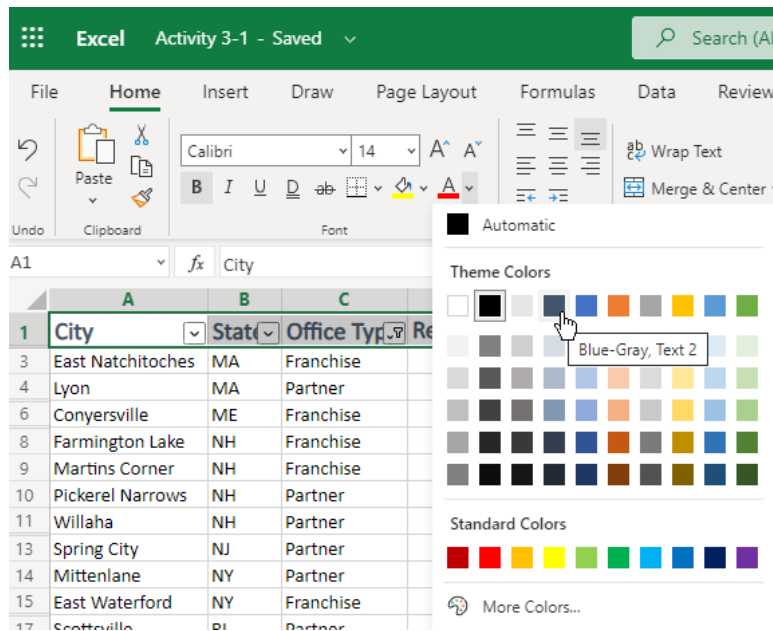
- Apply the **Bold** effect:



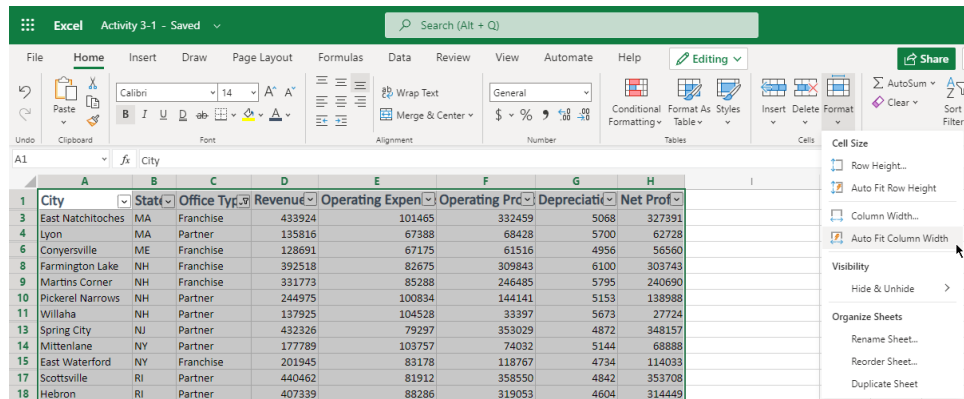
- Click the dropdown arrow next to the **Font Color** command:



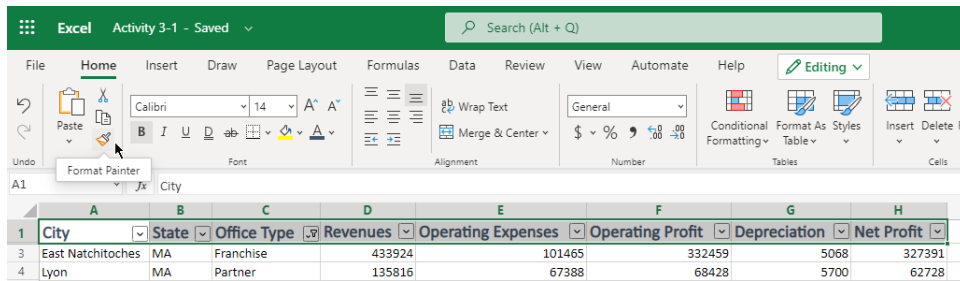
7. Click the swatch for **Blue-Gray, Text 2**:



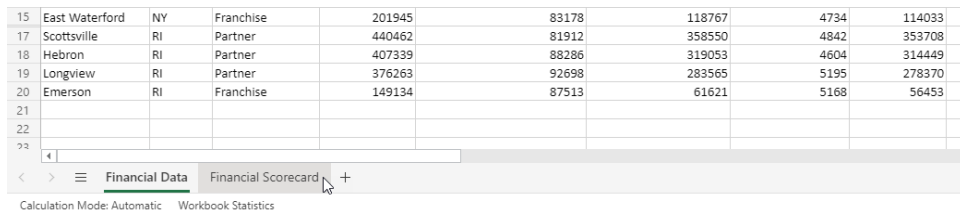
8. Because of the font changes, the data no longer fits in the cells. Press **Ctrl + A** to select the entire worksheet. Click **Home** → **Format** → **Auto Fit Column Width**:



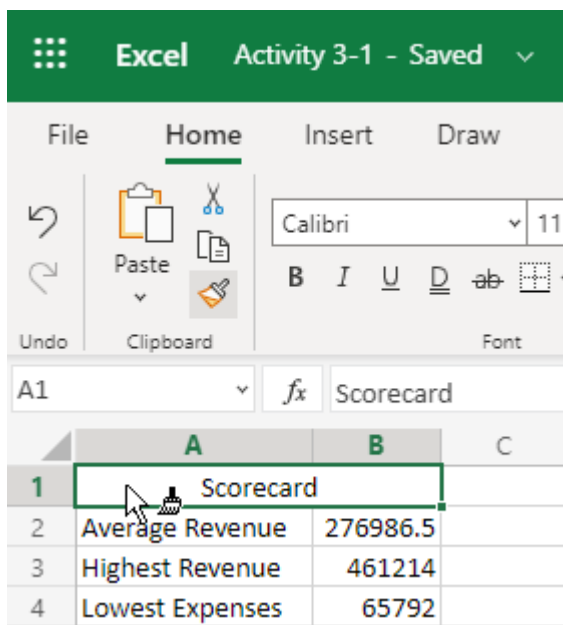
- Now, let's copy the header row formatting to the second sheet. Click any cell in Row 1 to select it and click **Home** → **Format Painter**:



- Click the **Financial Scorecard** worksheet tab:



- Click cell **A1**:



TOPIC B: Formatting Cells

Like working with fonts, you can also modify the appearance of cells in a variety of ways. For example, you can change the border options, fill colors, and even the format of data.

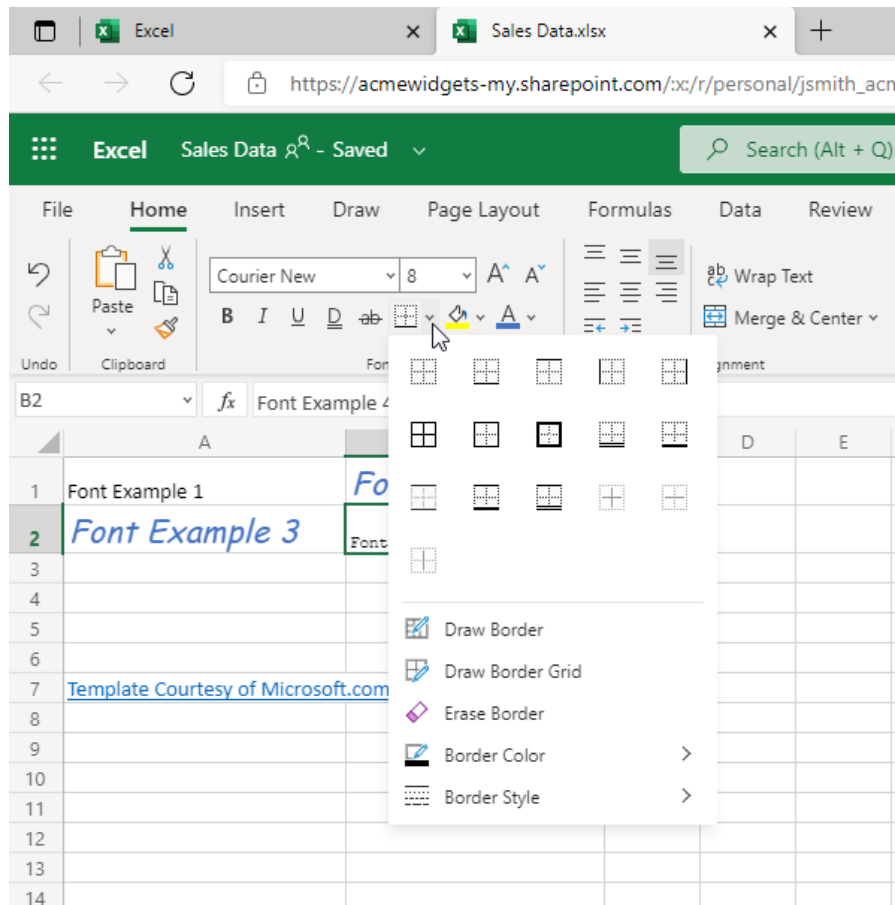
Topic Objectives

In this session, you will learn how to:

- Apply borders and fills to cells
- Change and customize number formats

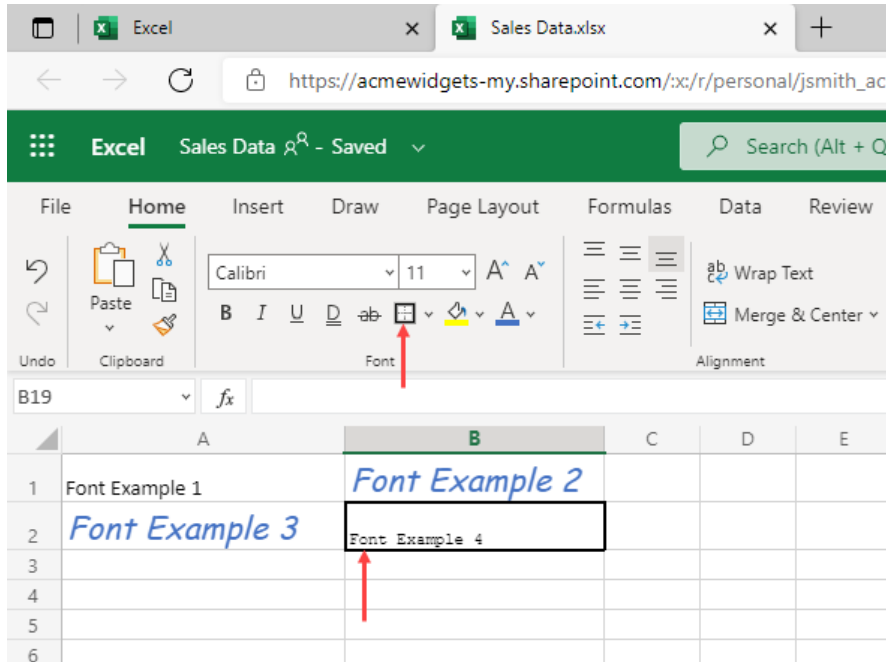
Applying a Border

To add a border, select a range of data, click the arrow next to the **Home** → **Borders** button, and choose what type of border you wish to apply to the range:



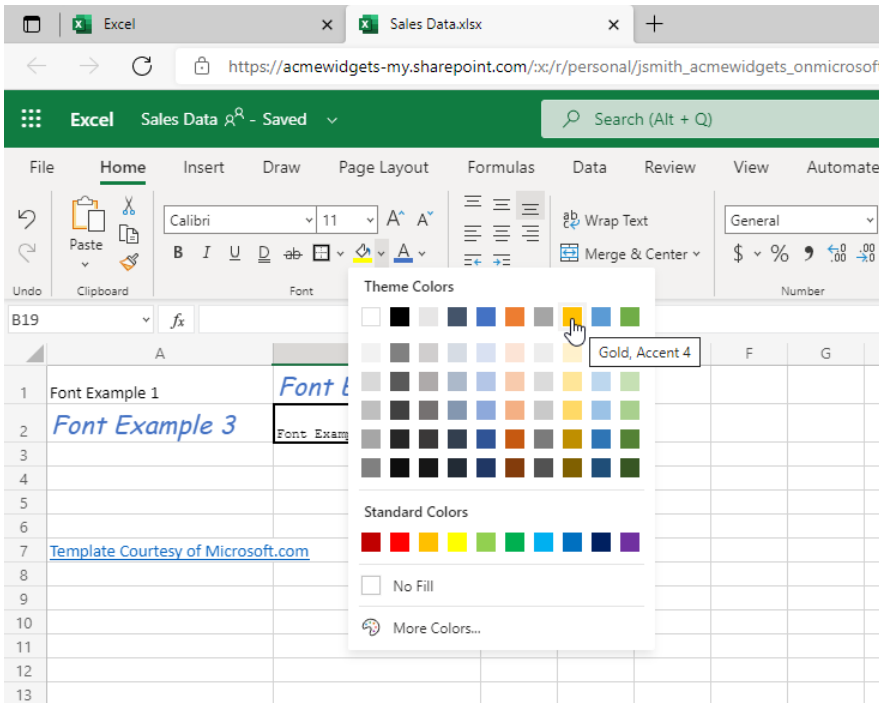
Note that there is also a **No Border** option, which will remove an applied border.

The formatting will be applied, and the selected option will now be available by clicking the **Border** command directly. For example, here we applied thick outside borders to the cell, so this option is now reflected on the **Border** icon:

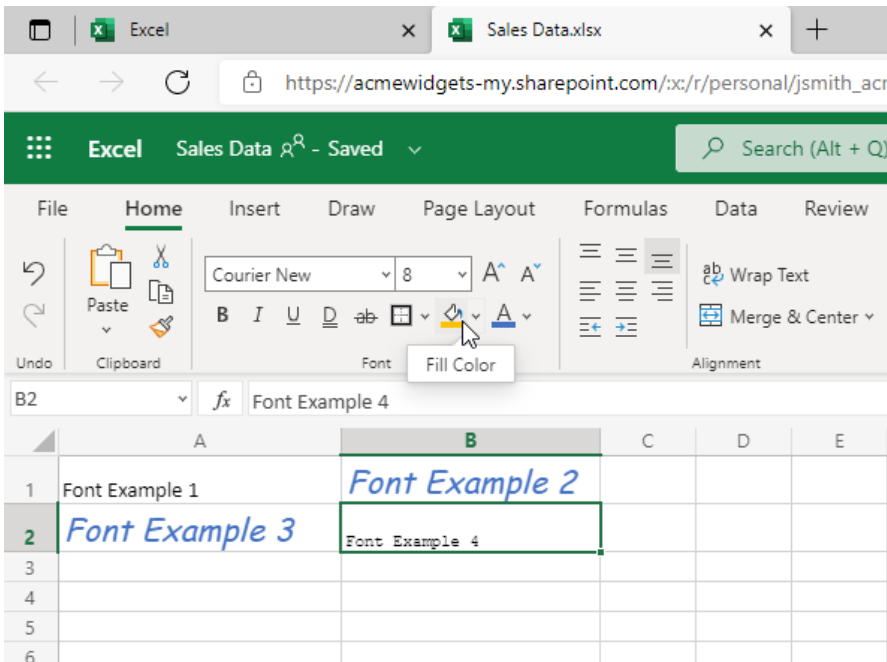


Applying a Fill

To apply a fill color, select the range of cells that you want to modify. Then, click **Home** → **Fill Color** arrow and click the desired color:

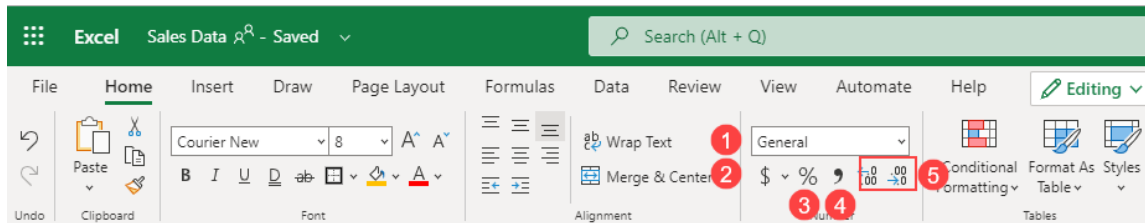


Just like the **Borders** command, the **Fill** command will show the most recently applied color. Click the icon directly to apply it.:



Changing the Number Format

Number formats are used to change the appearance of data and improve its readability. You can find the related commands in the **Number** group of the **Home** tab:

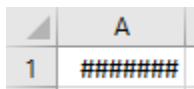


Listed below are the commands and actions in this group:

1. Click the dropdown menu to choose a number format.
2. Click this icon to open a dropdown menu with various accounting formats.
3. Click this icon to apply the Percentage number format.
4. Click this icon to apply the Accounting Comma number format.
5. Click these icons to increase or decrease the decimal position.

Formatted Numbers and Cell Width

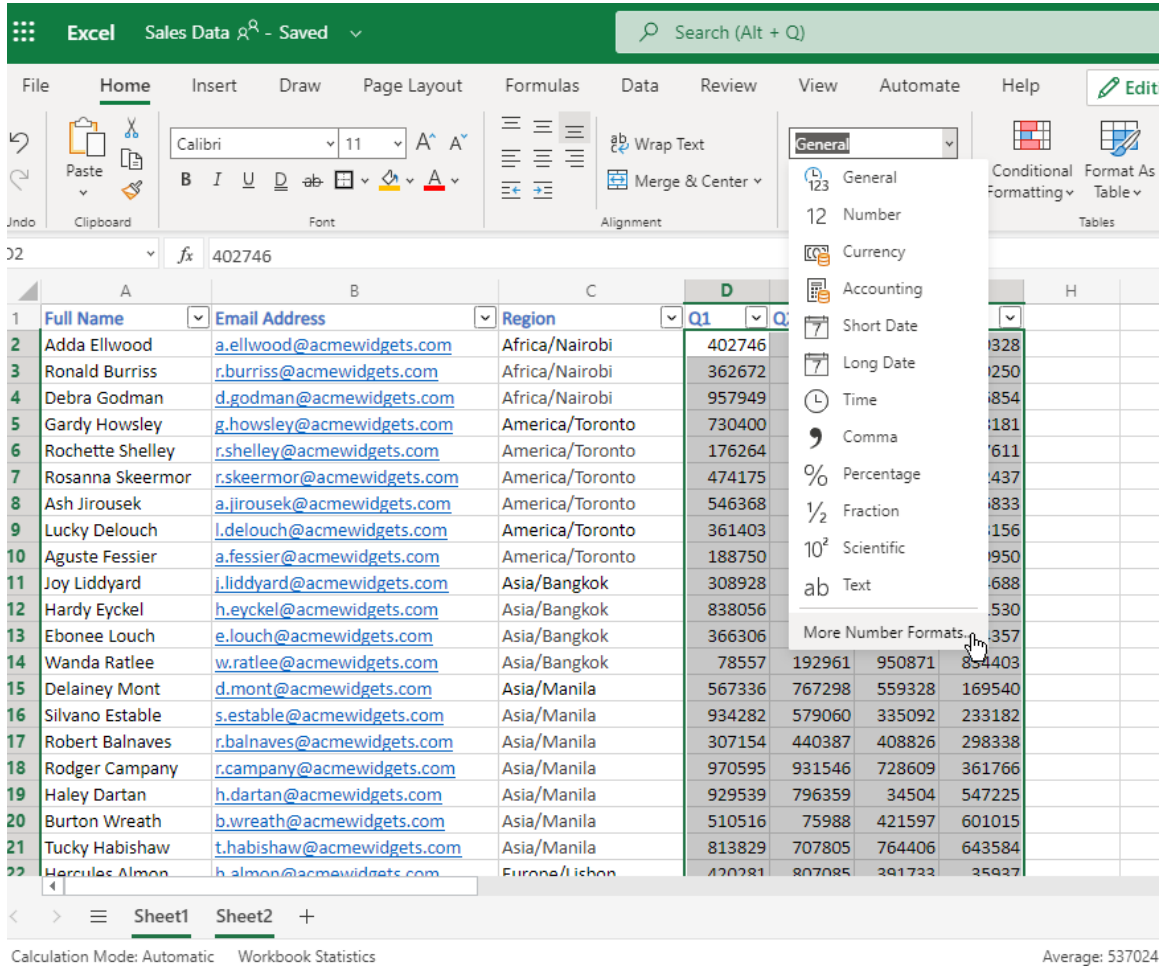
One thing to watch out for when formatting numbers is that the cell width can sometimes not provide enough room for the data and its formatting. This will cause Excel to display a series of # symbols in place of the actual data:



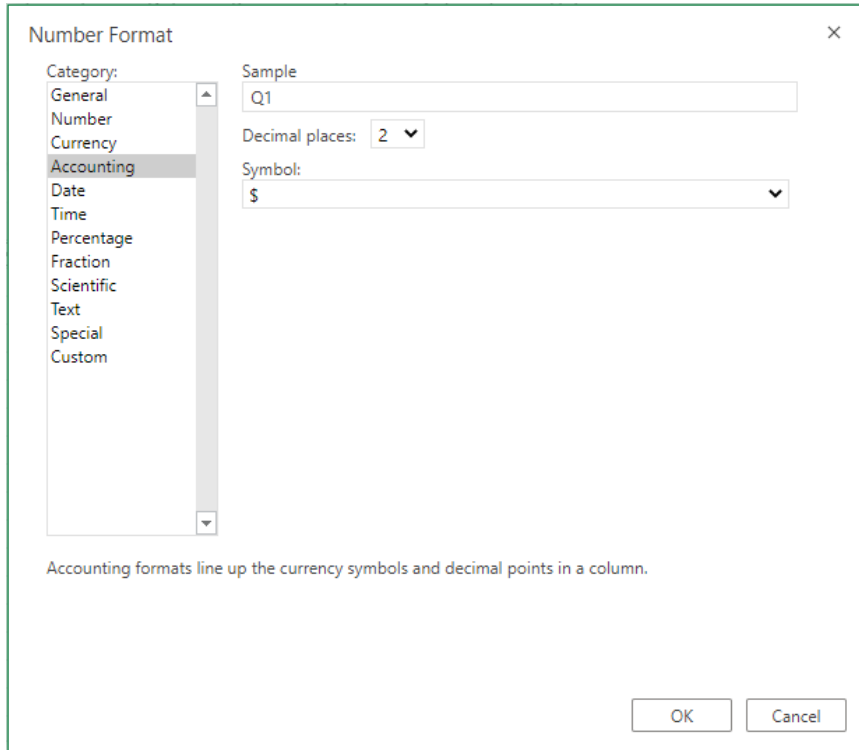
This problem can be solved by adjusting the column width or by choosing another number format.

Customizing Number Formats

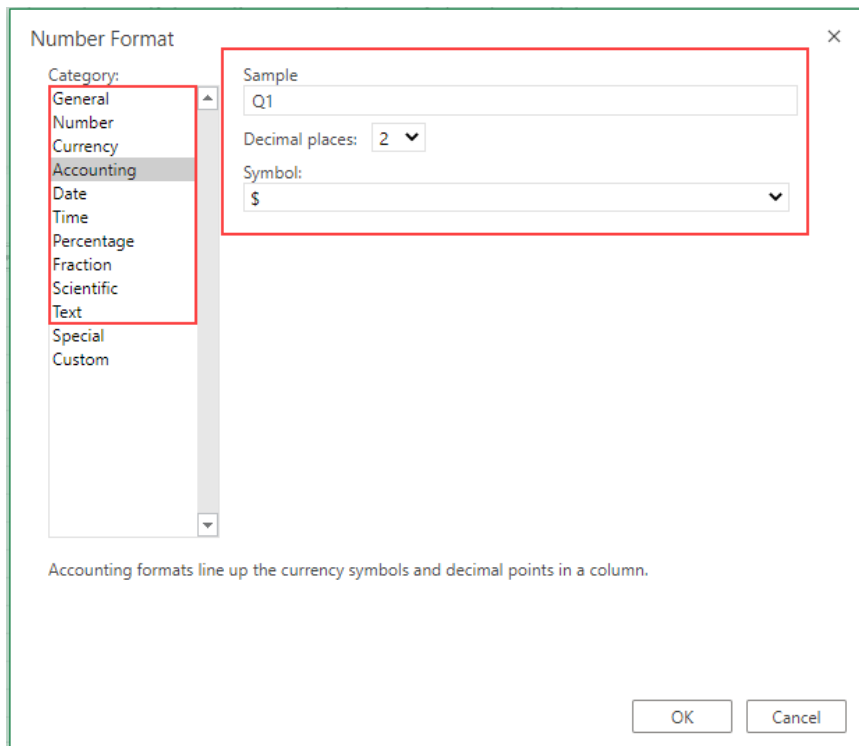
You can also create a custom number format. To begin, select the cell or cells that contain numbers you want to format. Then, open the **Number Format** dropdown under the **Home** tab, and click **More Number Formats**:



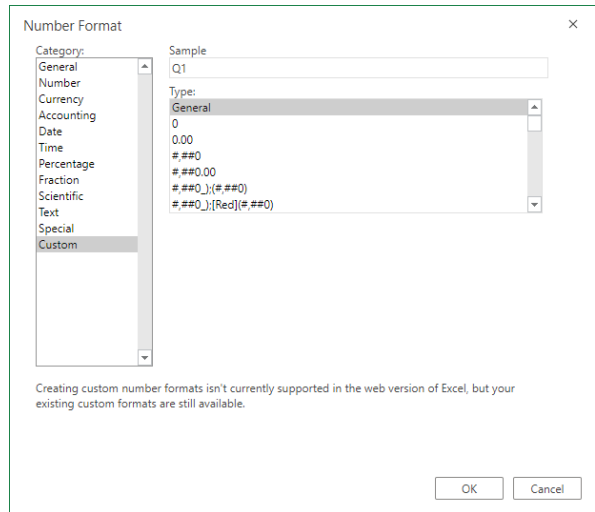
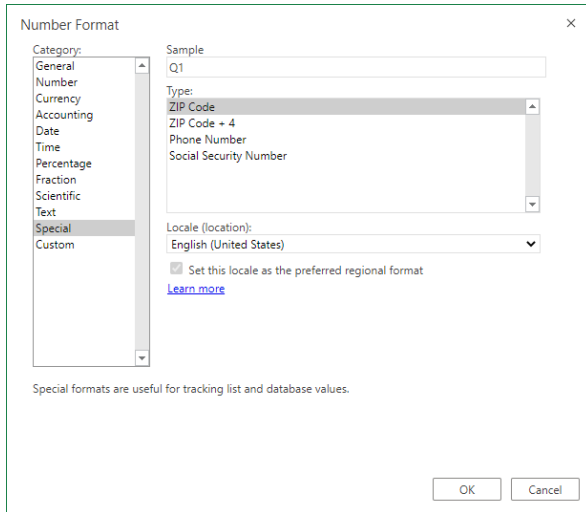
The Number Format dialog box will open:



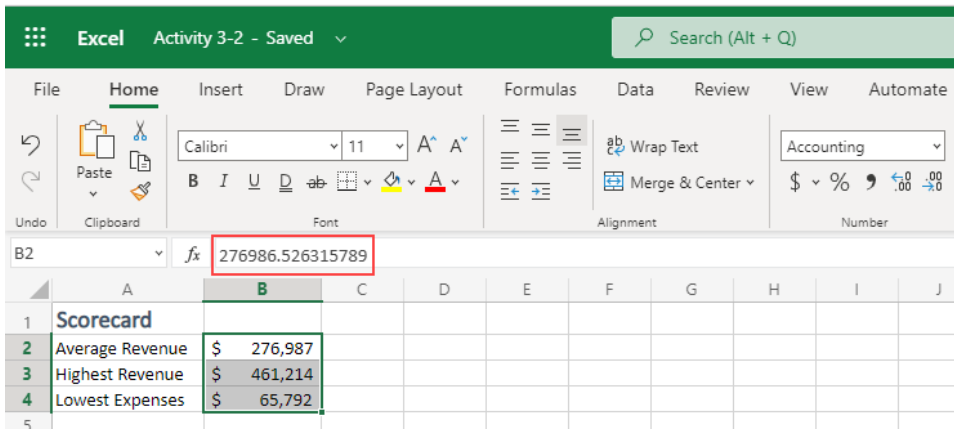
You can use this dialog box in two ways. You can choose a category from the left and use the options in the center of the dialog box to modify that number format:



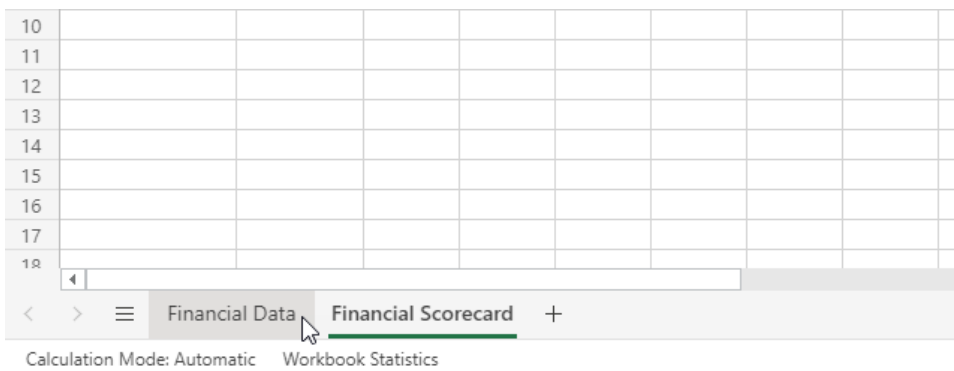
Or, create a custom format using one of the last two categories. The **Special** category allows you to select custom number formats based on location, while the **Custom** category contains miscellaneous formatting options:



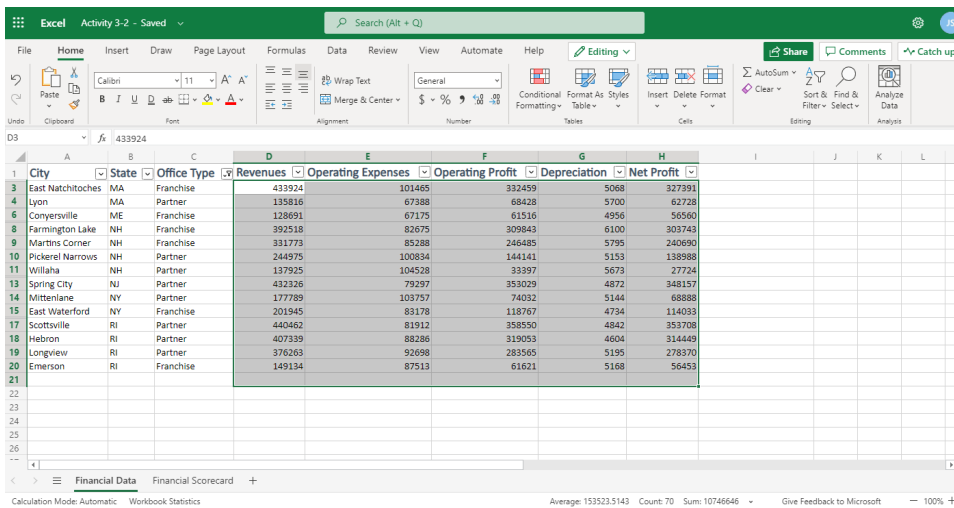
- This will remove the decimals from the numbers, but notice that the full value is still available in the formula bar:



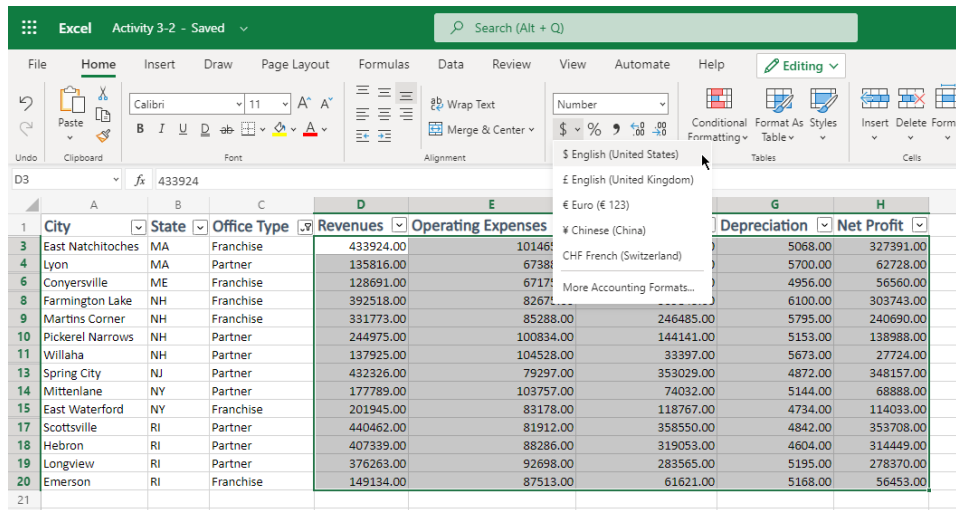
- Now, switch to the **Financial Data** worksheet:



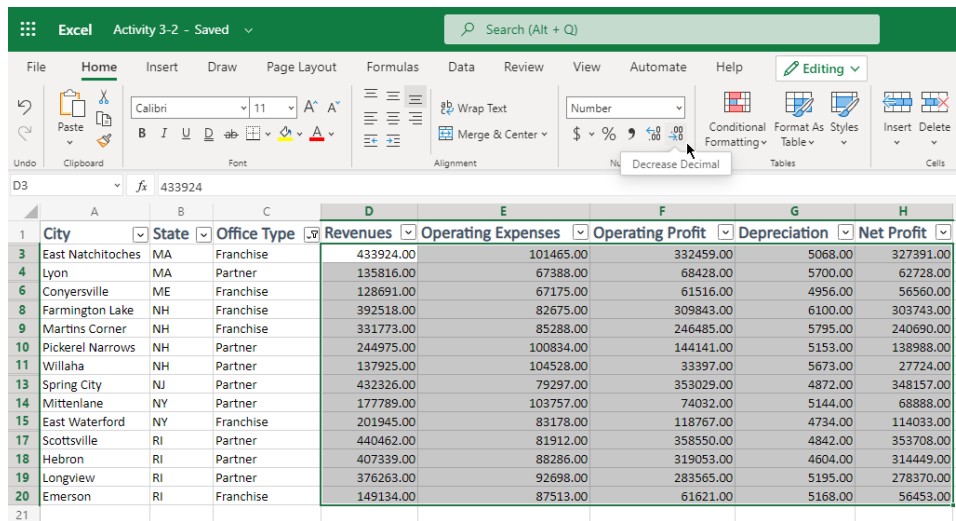
- Select cells **D3 through H20**:



- Click the dollar (\$) icon in the **Number** group of the **Home** tab and click **\$ English (United States)**:



- Click the **Decrease Decimal** button twice to remove the cents values:



10. Review the results:

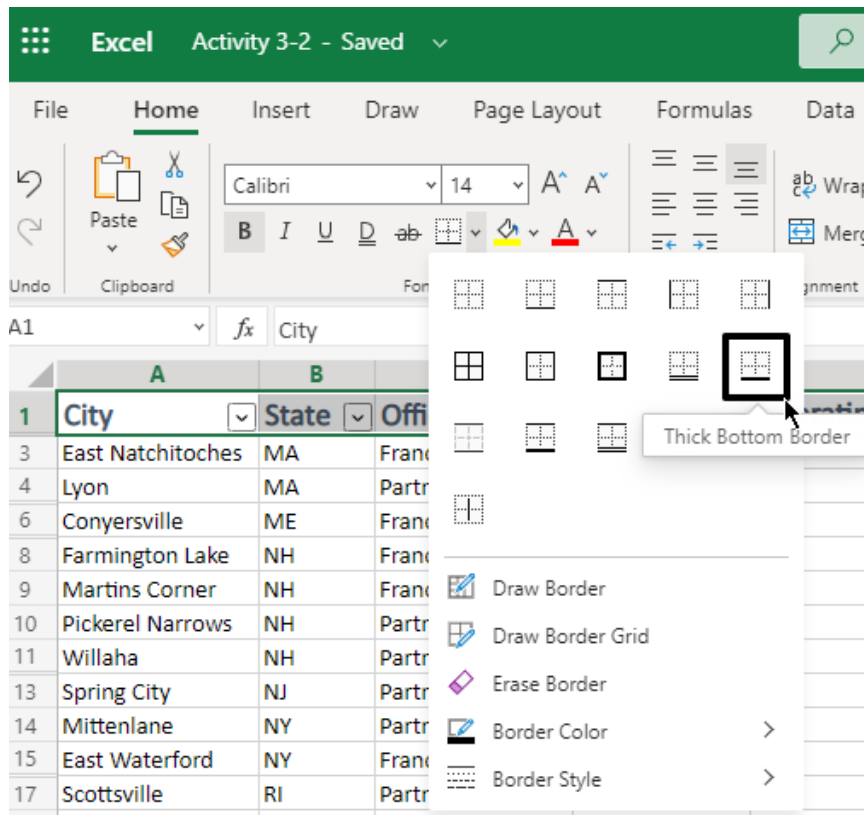
	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690
10	Pickereel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988
11	Willaha	NH	Partner	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,724
13	Spring City	NJ	Partner	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,157
14	Mittenlane	NY	Partner	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,888
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,033
17	Scottsville	RI	Partner	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,708
18	Hebron	RI	Partner	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,449
19	Longview	RI	Partner	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,370
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,453
21								

11. Finally, let's make the header row stand out a bit more. Select cells A1 to H1:

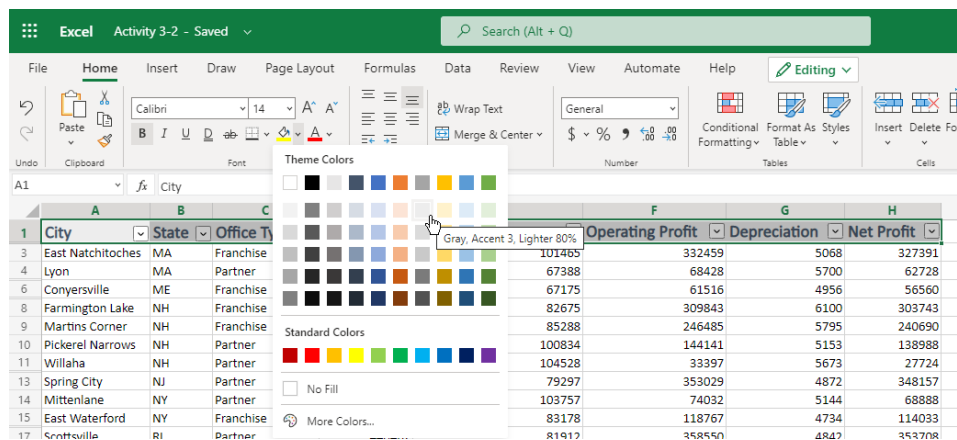
The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home', and the 'Editing' group is active. The table from the previous step is visible, with the header row (row 1) highlighted in a darker shade. The formula bar shows the active cell is A1, containing the text 'City'.

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728

12. Click the **Borders** dropdown arrow and click **Thick Bottom Border**:



13. The border will be added. Now, click the **Fill** dropdown arrow and choose **Gray, Accent 3, Lighter 80%**:



(If this color is not shown, select another color with a light shade.)

14. Click any cell to de-select the header row. Review your formatting changes:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690
10	Pickarel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988
11	Willaha	NH	Partner	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,724
13	Spring City	NJ	Partner	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,157
14	Mittenlana	NY	Partner	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,888
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,033
17	Scottsville	RI	Partner	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,708
18	Hebron	RI	Partner	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,449
19	Longview	RI	Partner	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,370
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,453
21								

15. Close the Excel browser tab to complete this activity.

TOPIC C: Aligning Cell Content

Alignment tools are another way to make your worksheet more attractive and readable.

This topic will introduce you to a few key tools, including alignment, text wrapping, and cell merging.

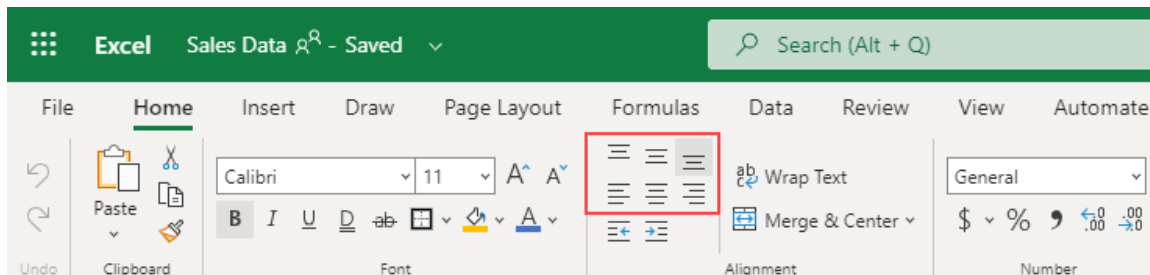
Topic Objectives

In this session, you will learn how to:

- Set alignment options
- Use indent commands
- Wrap text
- Use Merge & Center

Alignment Options

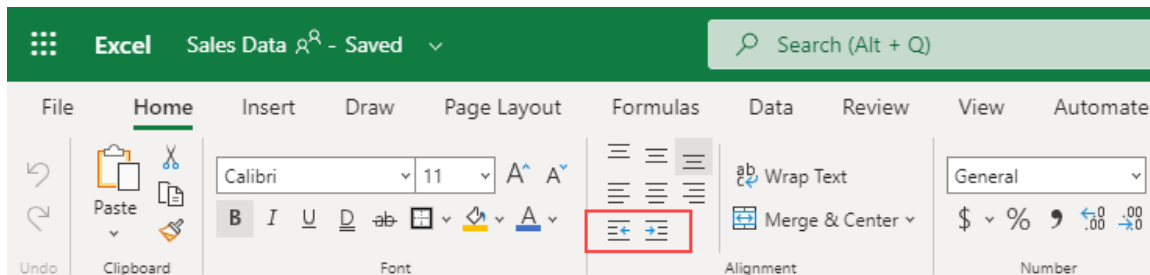
To align data within a worksheet, select the cell(s) you want to adjust and then use the commands in the **Alignment** group of the **Home** tab:



The top row of options controls vertical alignment, while the bottom row controls horizontal alignment.

The Indent Commands

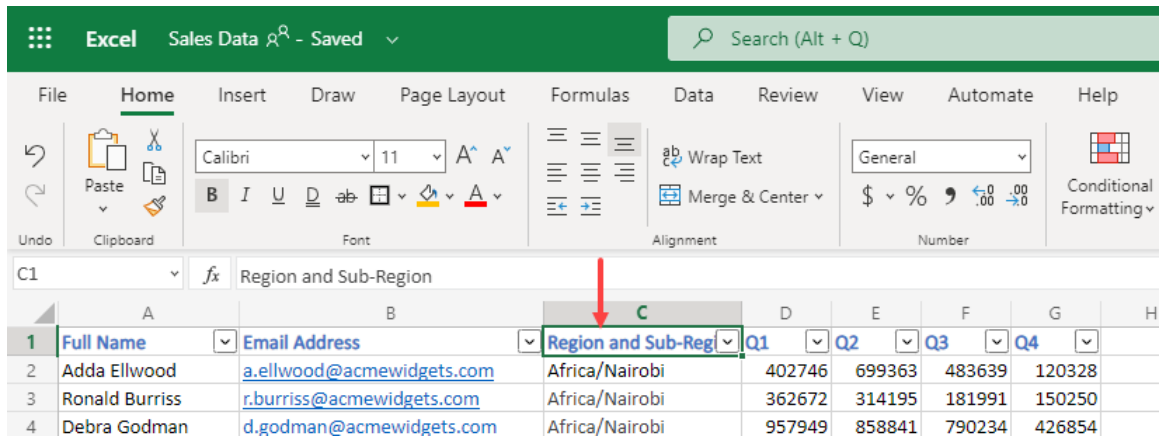
The **Indent** commands in the **Alignment** group of the **Home** tab allow you to adjust the space between a cell border and its contents:



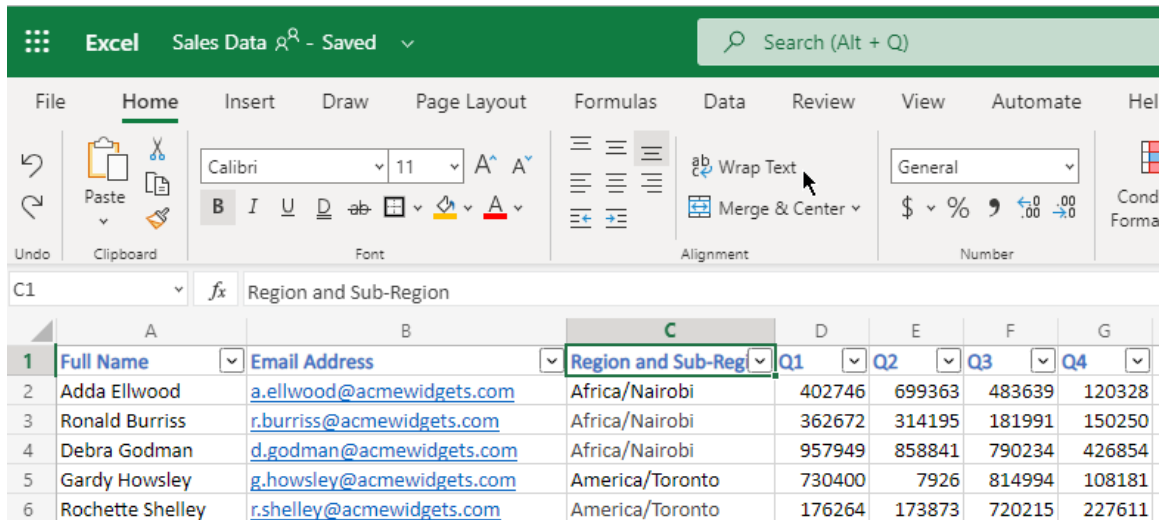
For example, if the contents of a cell are left-aligned, clicking **Increase Indent** (right arrow) will increase the space between the contents and the left border. Similarly, clicking **Decrease Indent** (left arrow) will decrease that space.

The Wrap Text Command

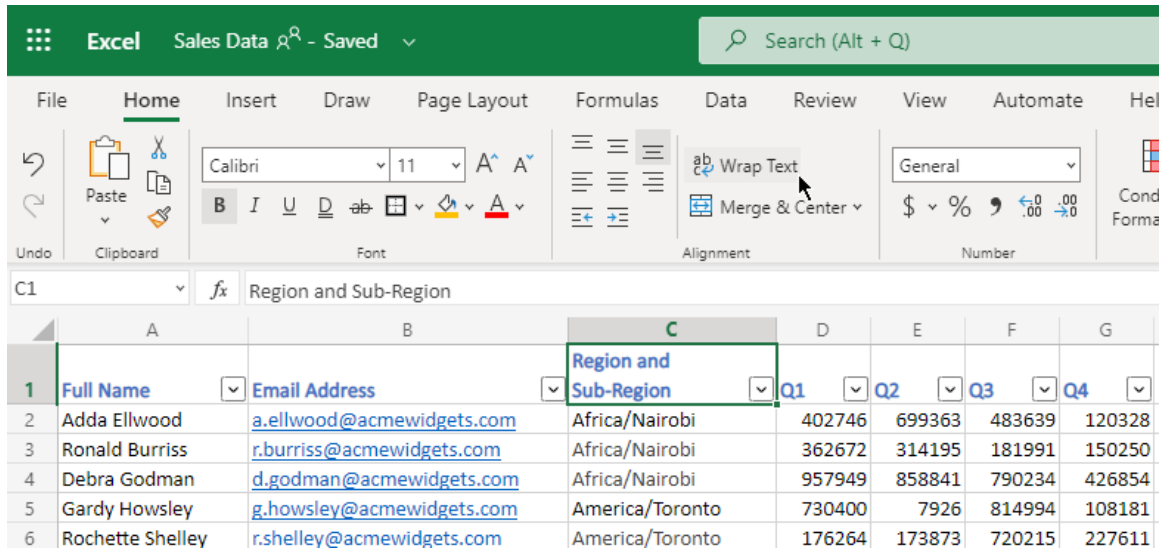
When you enter text into a cell and that text exceeds its dimensions, the contents will continue and overlap to the next cell if it contains no data. If the neighboring cell does contain data, the content will be truncated and hidden (although the full text will be displayed in the formula bar):



Clicking **Home** → **Wrap Text** with the cell selected will adjust the row height to accommodate overlapping text:



(Wrap Text can be toggled off by clicking **Home** → **Wrap Text** again.)



The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home', and the 'Wrap Text' button in the Alignment group is highlighted with a mouse cursor. Below the ribbon, the spreadsheet is visible with the following data:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region and Sub-Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611

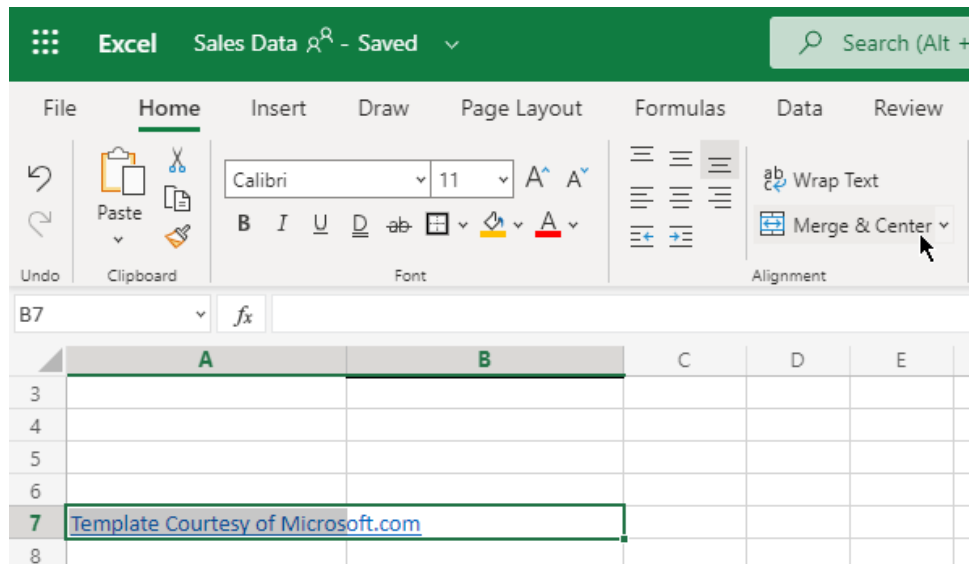
Manual Line Breaks

You can achieve the same effect using manual line breaks. To add a manual line break to a cell, press **Alt + Enter** at the desired break location when editing the contents.

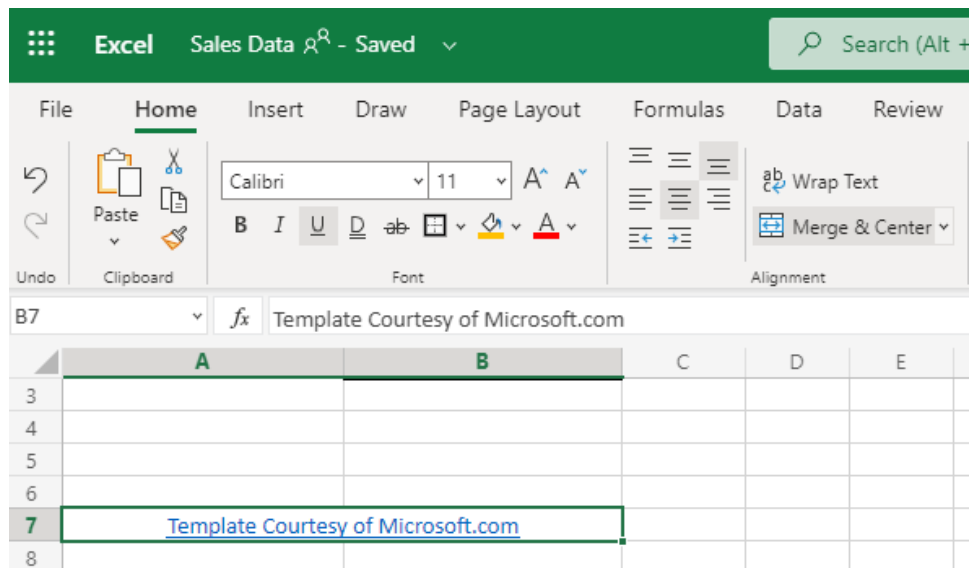
Merge & Center Options

Occasionally, you may need a long cell for a heading, or you may need to resize columns or rows so that long items can be displayed. The **Merge & Center** options allow you to select a group of cells, either across a row or down a column, and combine them to form one large cell.

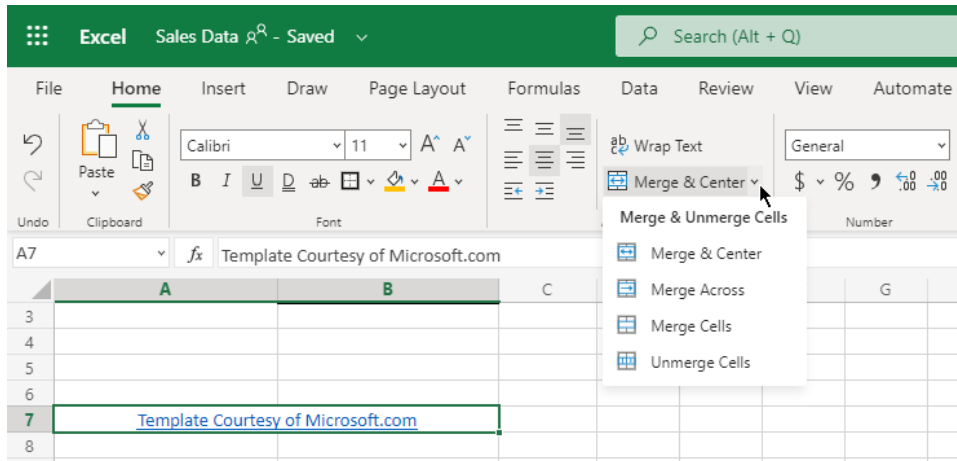
To do this, select a group of adjacent cells and click **Home** → **Merge & Center**:



Here are the results:



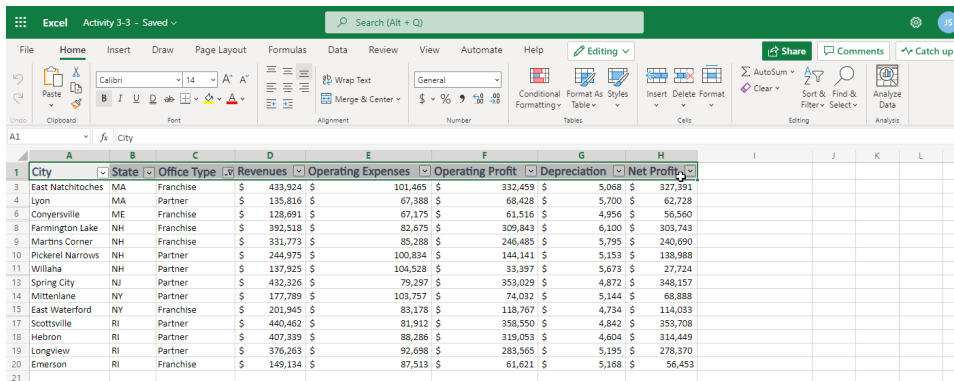
Note that you can access a few more options from the **Merge & Center** dropdown menu:



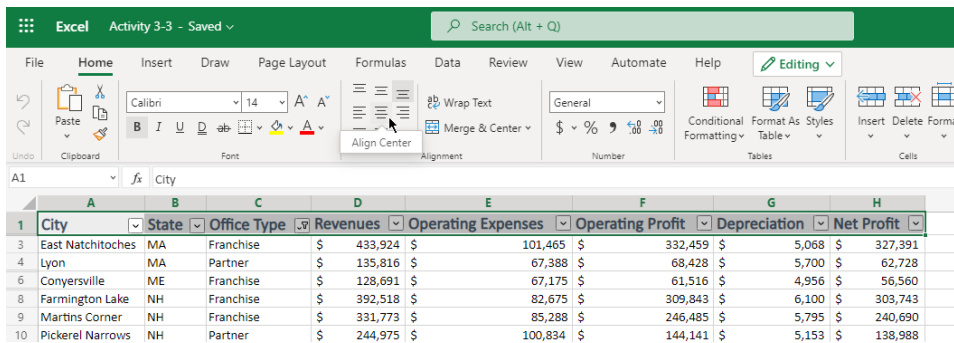
Activity 3-3: Aligning Cell Content

In this activity, you will use alignment tools to improve the appearance of your financial data worksheet.

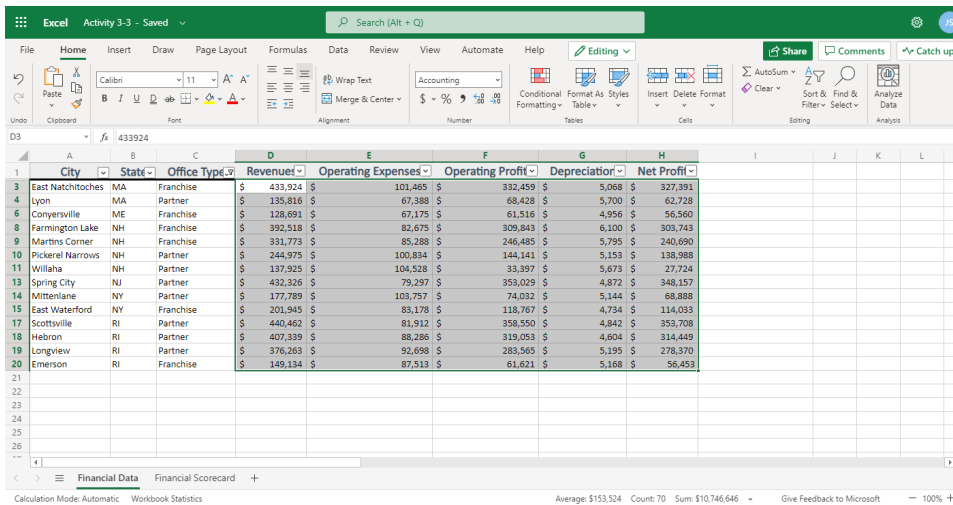
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 3-3 from OneDrive.
2. Select **Row 1**:



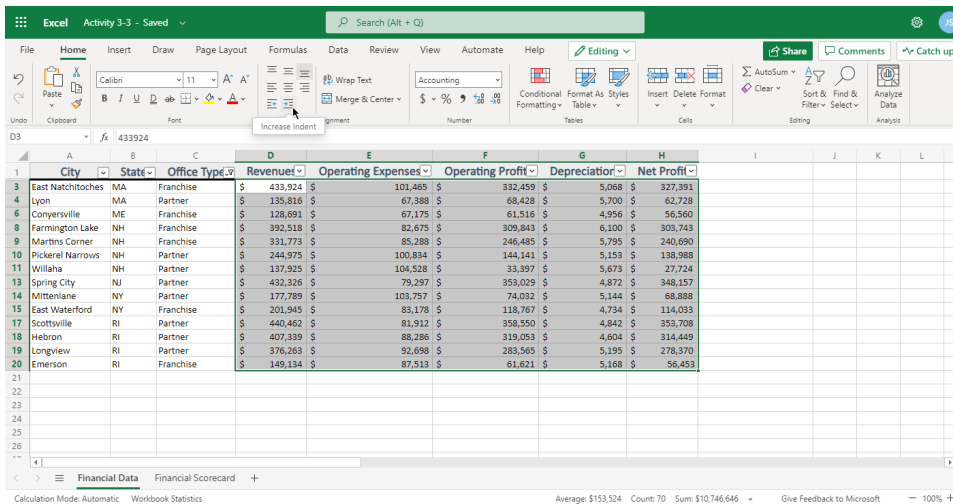
3. Click **Home** → **Align Center**:



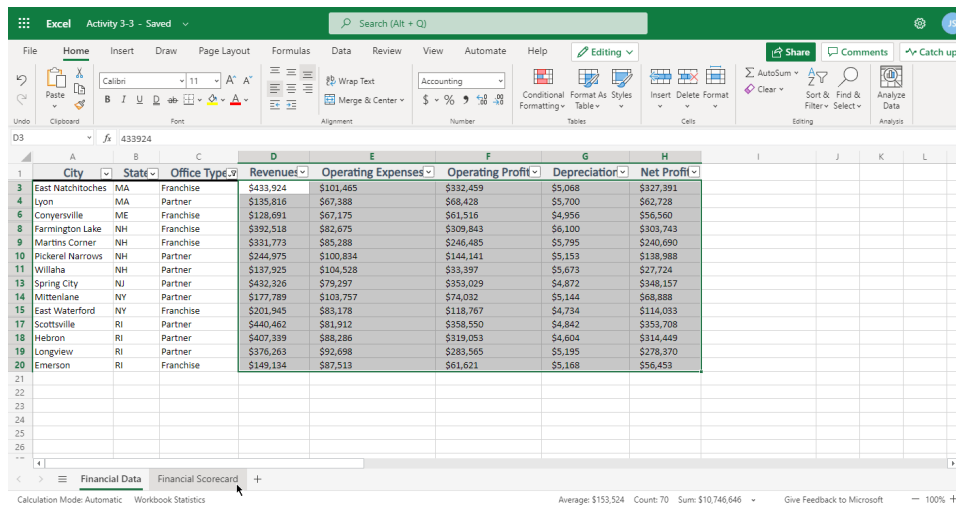
- The formatting will be applied. Now, notice how the dollar sign is separated from the numerical data. Let's fix this by modifying the indent. Select cells **D2 through H20**:



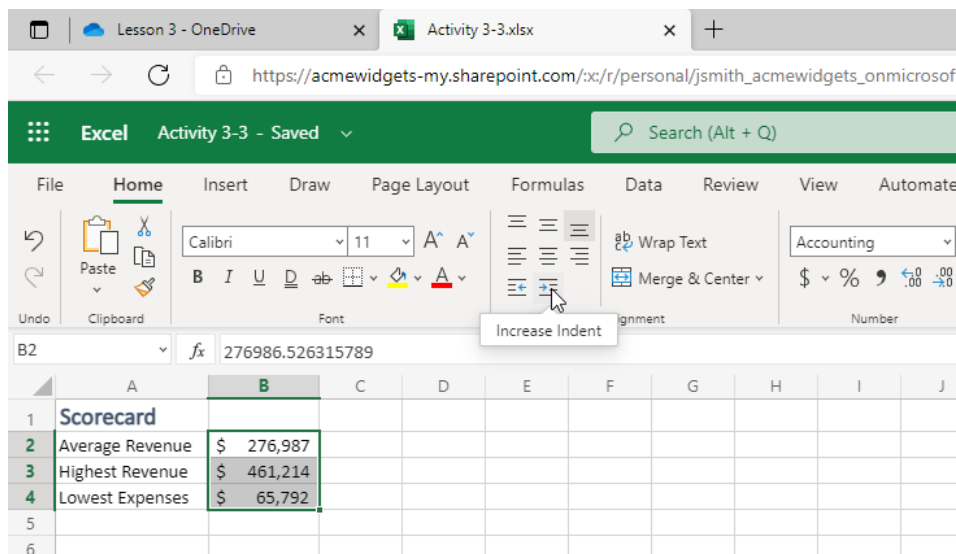
- Now, click **Home** → **Increase Indent**:



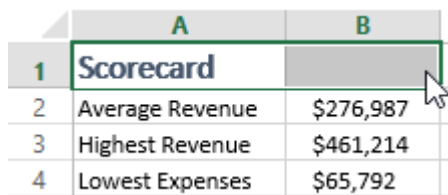
6. The formatting will be applied. Switch to the **Financial Scorecard** tab:



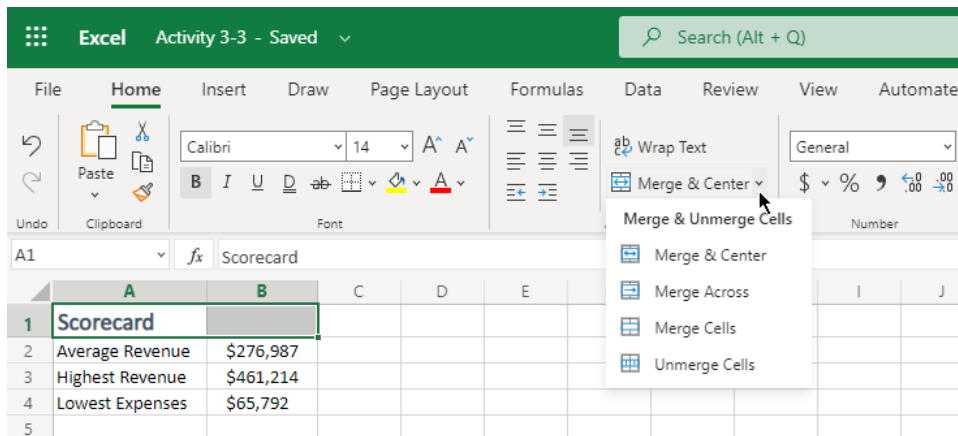
7. Select the data in cells **B2 to B4**. Use the **Increase Indent** command to fix this data display:



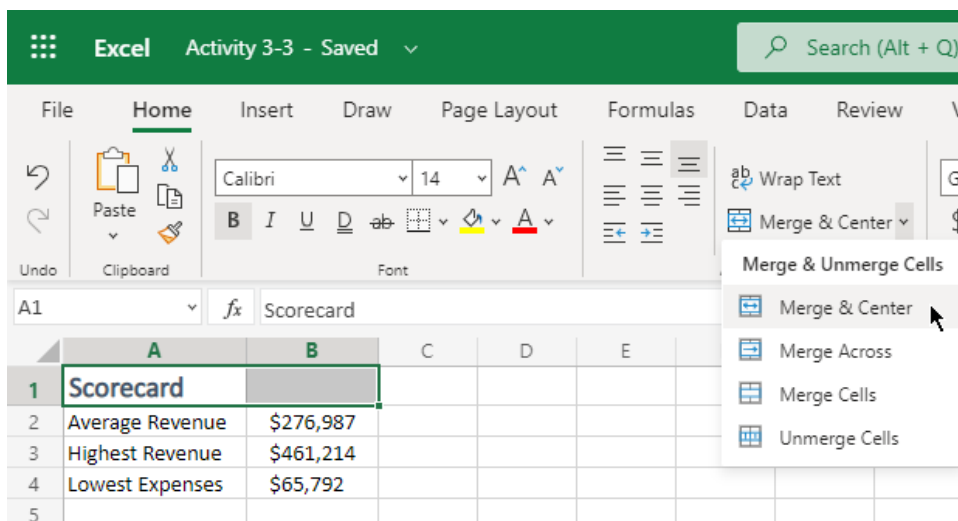
8. Now, let's reapply the Merge and Center formatting to the title. Select cells **A1 and B1**:



9. Click the **Merge & Center** dropdown arrow under the **Home** tab:



10. Review the options. It looks like the **Merge & Center** command is fine for our needs. Click this option to apply it:



11. Close the Excel browser tab to complete this activity.

TOPIC D: Using Find & Select Tools

Excel offers a number of tools to help you find, replace, and navigate to data within a workbook. This topic will cover all of these tools and give you an opportunity to practice using them.

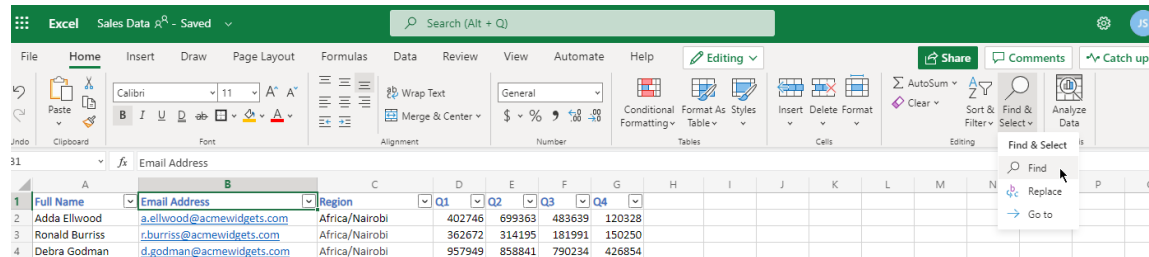
Topic Objectives

In this session, you will learn how to:

- Use the Find, Replace, and Go To commands

The Find Command

To search for data in a workbook, click **Home** → **Find & Select** → **Find**, or press **Ctrl + F**:



With either command, the Find dialog box will open:

Find

Find what:

> Search Options

Find Next Find All Replace...

You can type your search term in the **Find what** field:

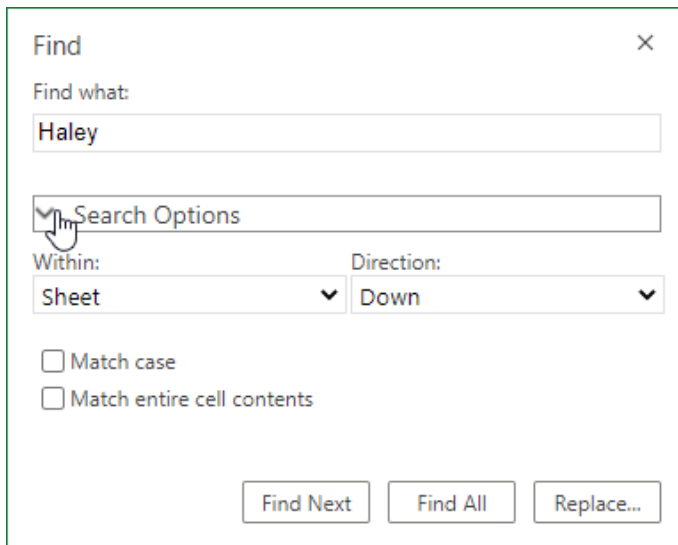
Find

Find what:

> Search Options

Find Next Find All Replace...

Clicking **Search Options** will display additional menus and options:



Find

Find what:
Haley

Search Options

Within: Sheet Direction: Down

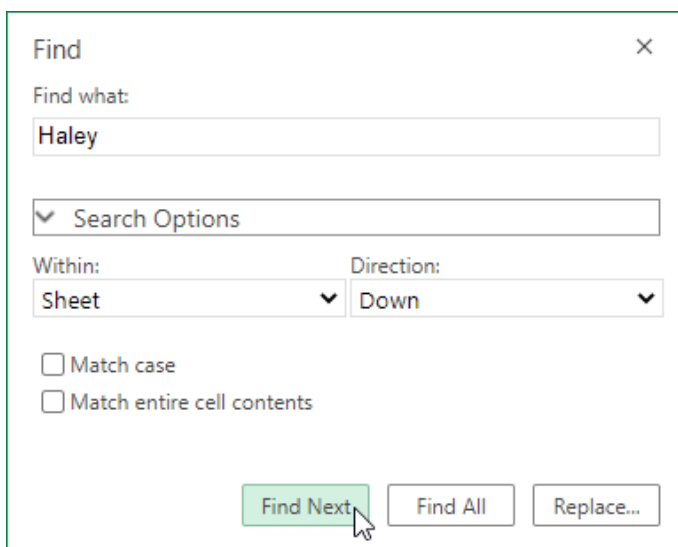
Match case
 Match entire cell contents

Find Next Find All Replace...

Here is an overview of the Search Options.

- Use the **Within** menu to choose whether you want to search within the current selection, worksheet, or workbook.
- The **Direction** menu allows you to control which direction the search starts in.
- The **checkboxes** allow you to require an exact case match and/or a match to the full cell contents.

Once you have set your options, click **Find Next** to see the first result:



Find

Find what:
Haley

Search Options

Within: Sheet Direction: Down

Match case
 Match entire cell contents

Find Next Find All Replace...

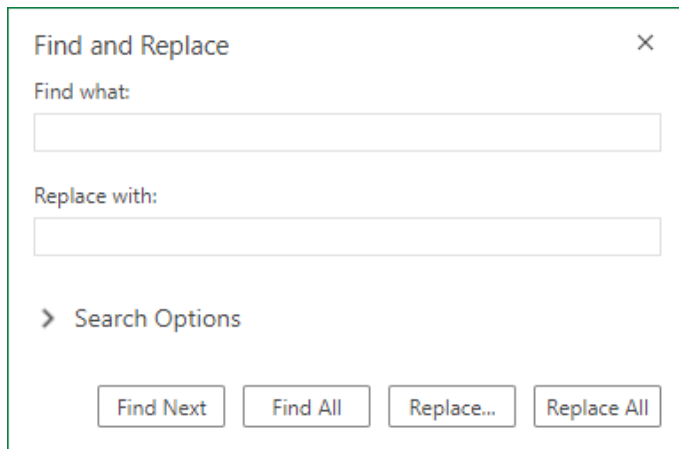
You can continue clicking **Find Next** to view additional results. You can also work with Excel data even while the Find dialog box is open.

The Replace Command

To replace search terms with something else, you can:

- Click the **Replace** command in the Find dialog box
- Click **Home** → **Find & Select** → **Replace**
- Use the **Ctrl + H** shortcut

With any of these actions, the Find and Replace dialog box will open:



The screenshot shows the 'Find and Replace' dialog box. It has a title bar with 'Find and Replace' and a close button (X). Below the title bar, there are two text input fields: 'Find what:' and 'Replace with:'. Below these fields is a section titled '> Search Options'. At the bottom of the dialog box, there are four buttons: 'Find Next', 'Find All', 'Replace...', and 'Replace All'.

The Find and Replace dialog box is very similar to the Find dialog box, except there is also a field to enter replacement text for the search term(s). You can then click **Replace** to view each match and replace it, or click **Replace All** to replace search terms automatically.

You can view additional search options by clicking **Search Options**:

Find and Replace

Find what:

Replace with:

Search Options

Within: Sheet Direction: Down

Match case

Match entire cell contents

Find Next Find All Replace... Replace All

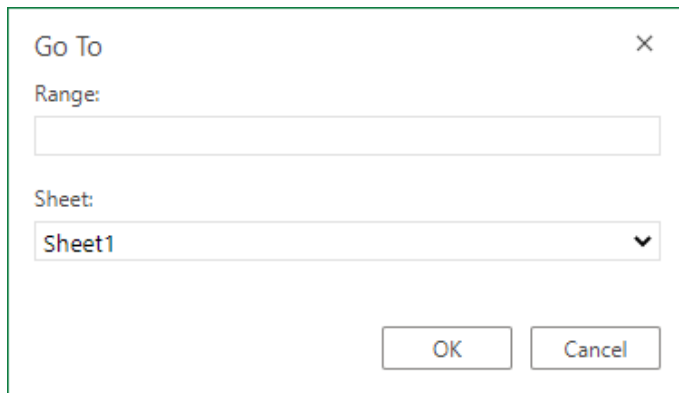
The Go To Command

The final command in the Find & Select menu is **Go To**:

	Full Name	Region	Q1	Q2	Q3	Q4
1	aley					
2	Adda Ellwood	Africa/Nairobi	402746	699363	483639	120328
3	Ronald Burriss	Africa/Nairobi	362672	314195	181991	150250
4	Debra Godman	Africa/Nairobi	957949	858841	790234	426854
5	Gardy Howsley	America/Toronto	730400	7926	814994	108181

(You can also use the **Ctrl + G** shortcut.)

The Go To dialog box will open:



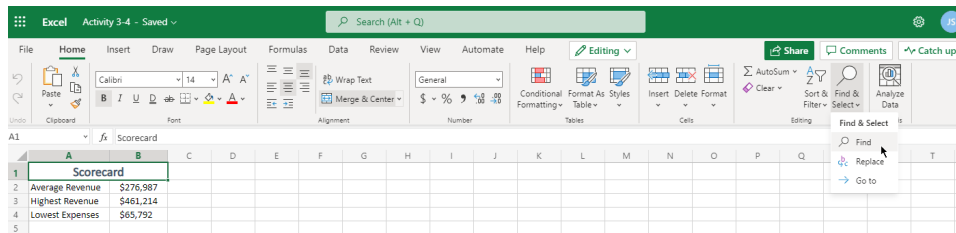
The image shows a screenshot of the 'Go To' dialog box in Microsoft Excel Online. The dialog box has a title bar with 'Go To' and a close button (X). It contains two input fields: 'Range:' with an empty text box below it, and 'Sheet:' with a dropdown menu showing 'Sheet1'. At the bottom, there are two buttons: 'OK' and 'Cancel'.

Enter the cell range you want to navigate to and select which sheet you want to search. Then click **OK**.

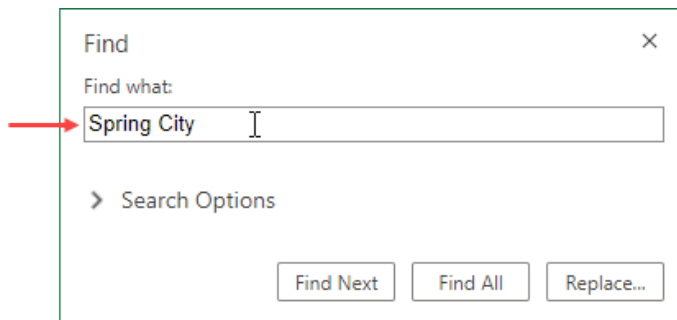
Activity 3-4: Using Find & Select Tools

You have been asked to confirm that the data for the Spring City office is included, and to make a terminology change in the financial data report.

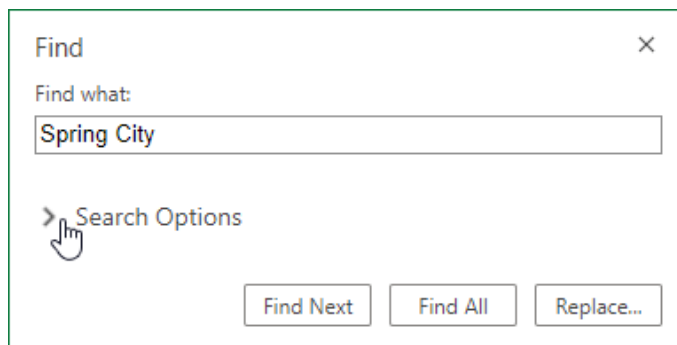
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 3-4 from OneDrive.
2. First, let's check for the Spring City data. Click **Home** → **Find & Select** → **Find**:



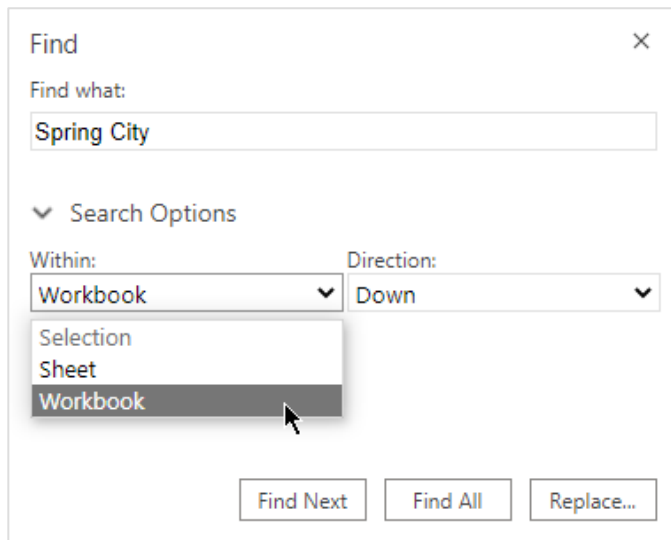
3. The Find dialog box will open. Type, "Spring City" in the **Find what** field:



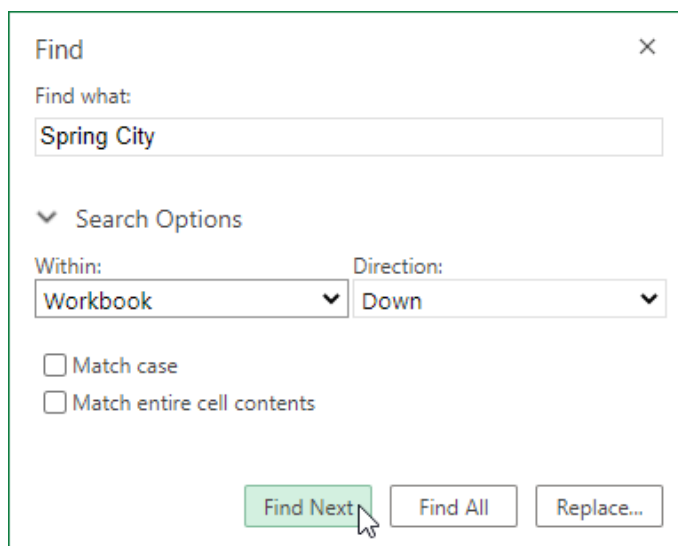
4. Open the **Search Options** dropdown:



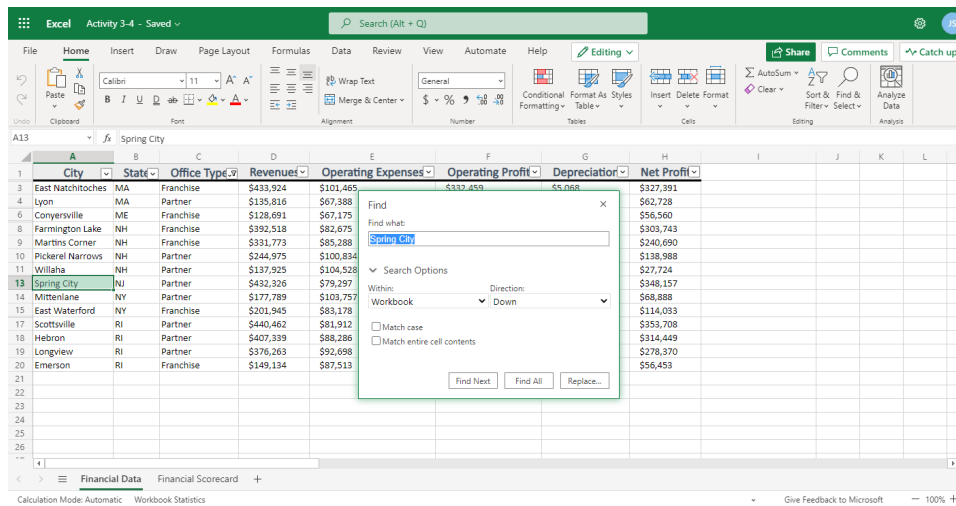
5. Open the **Within** dropdown menu, and make sure **Workbook** is selected:



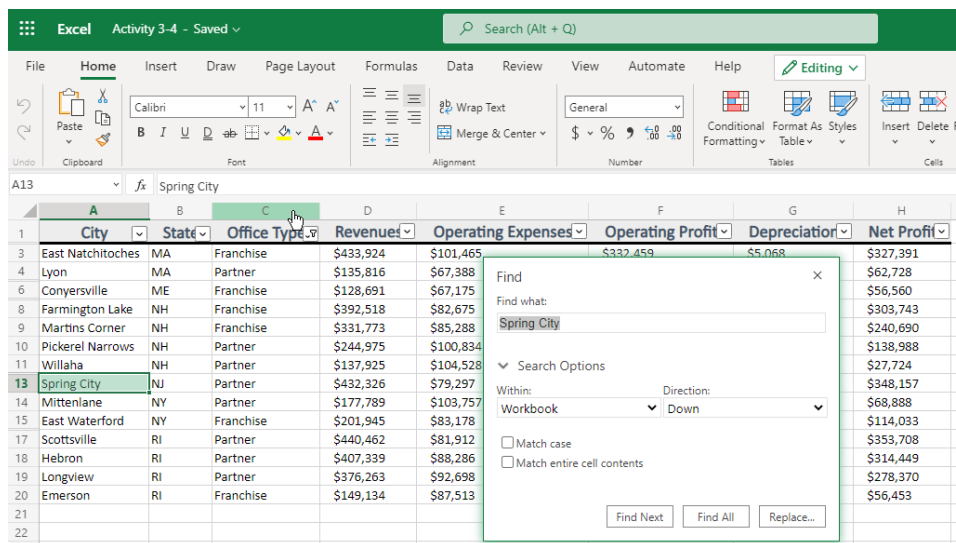
6. Click **Find Next**:



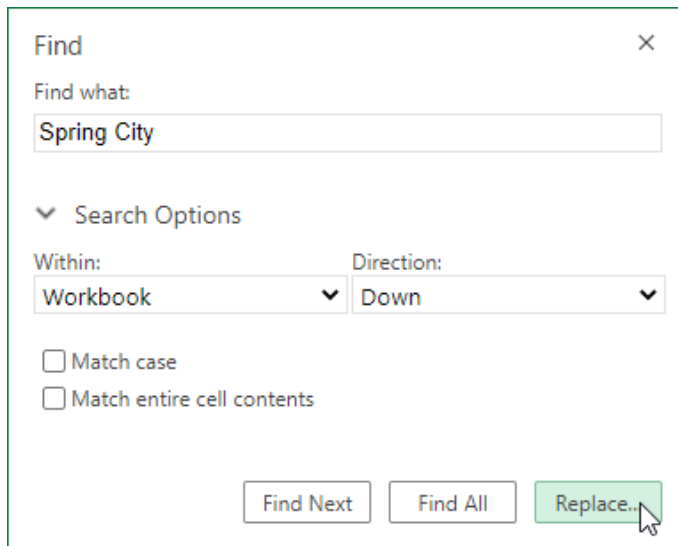
7. Excel will now switch to the **Financial Data** sheet and select the match:



8. Now we need to make the terminology change. With the Find dialog box still open, click to select **Column C**:



9. Click the **Replace** button:

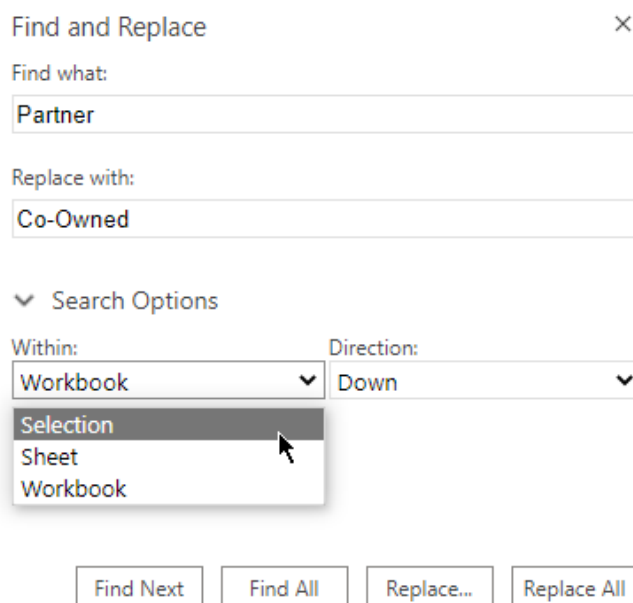


10. Now, fill out the dialog box with the following information:

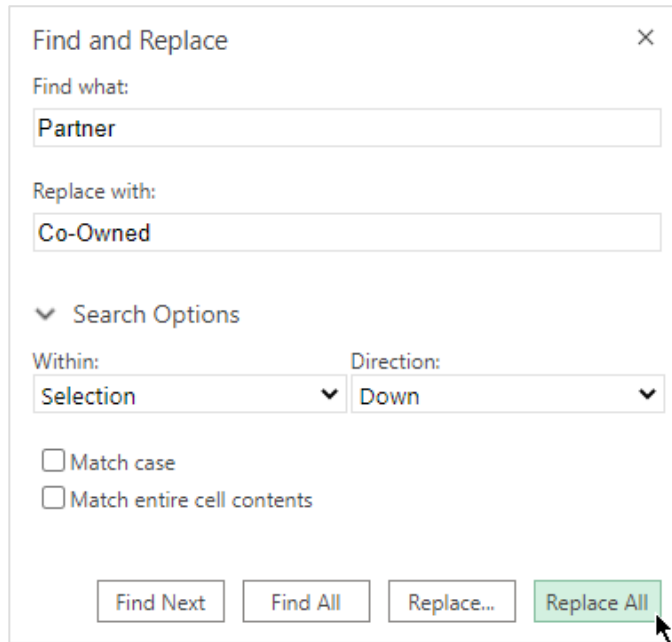
- *Find what:* **“Partner”**
- *Replace with:* **“Co-Owned”**

Click the Search Options Dropdown and make sure Selection is chosen

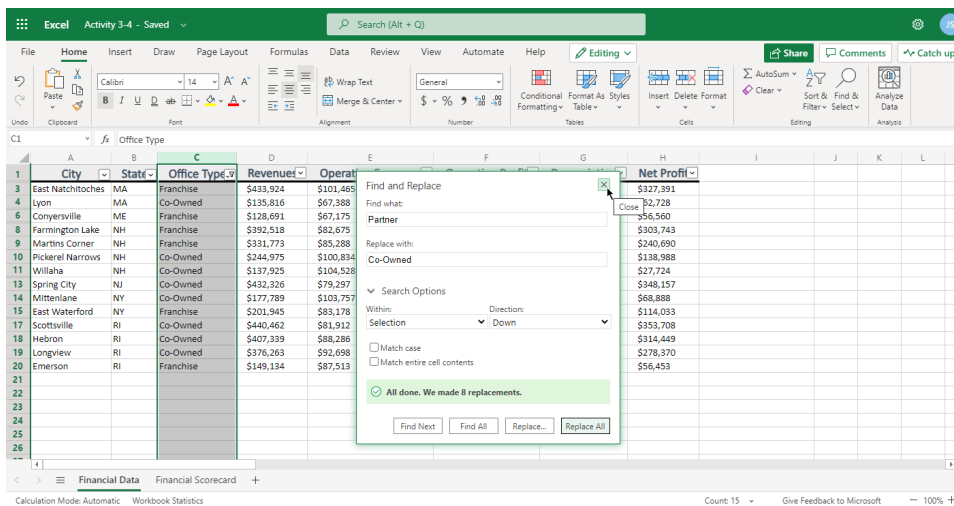
- *Within:* **Selection**



- Once this information has been entered, click **Replace All**:



- When the replacements are complete, close the Find and Replace dialog box:



- Close the Excel browser tab to complete this activity.

TOPIC E: Applying Conditional Formatting

While Excel workbooks and worksheets can contain all sorts of important data, sometimes that data can be lost in a sea of information. Excel's conditional formatting feature can help bring attention to patterns or outliers in your data.

Topic Objectives

In this session, you will learn:

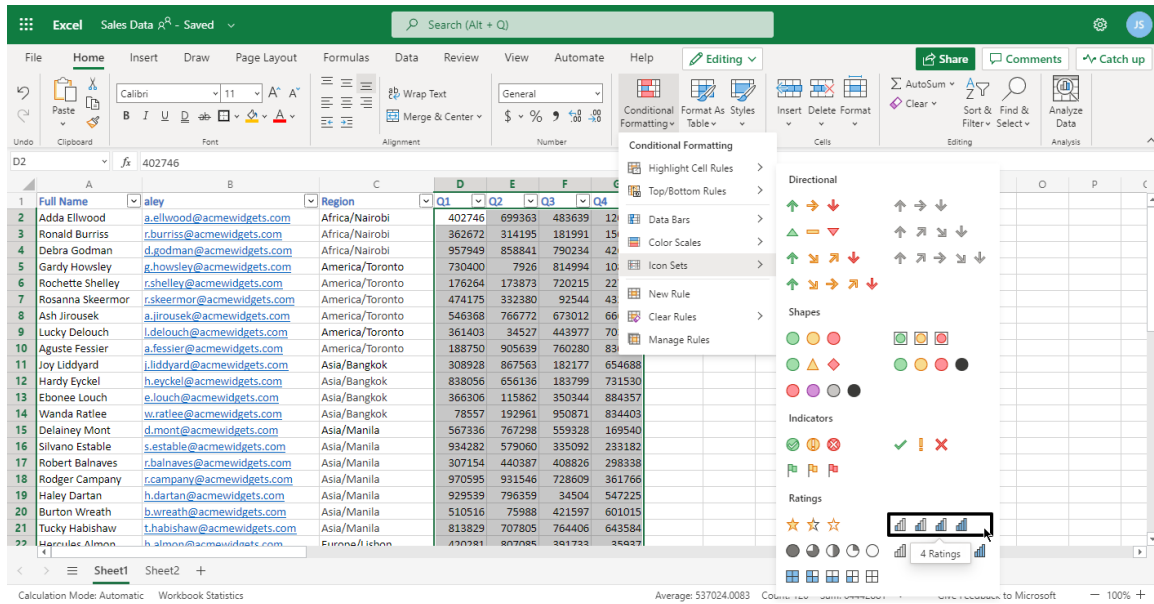
- About conditional formatting
- How to apply, customize, and clear conditional formatting

What is Conditional Formatting?

Conditional formatting will automatically highlight cells with data that satisfies certain criteria. It is useful for worksheets that show financial figures (where black formatting might equal positive values, while red formatting might equal negative values), test results (where results change color based on their value), or any time you want to highlight data within a certain range.

Applying Conditional Formatting Rules

To apply conditional formatting, select the target data, click **Home** → **Conditional Formatting**, choose the formatting category, and choose a style:



Here is an overview of the categories.

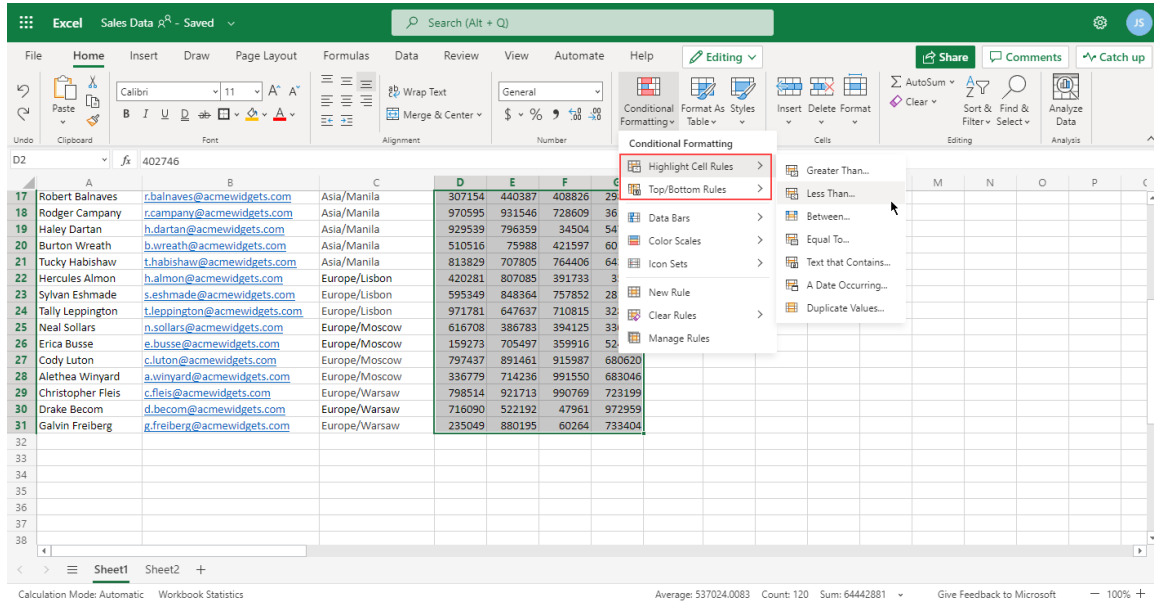
- **Highlight Cells Rules:** Highlights cells that are greater than, less than, between, or equal to specified values.
- **Top/Bottom Rules:** Highlights the top or bottom numbers or percentages in the selected cells.
- **Data Bars:** Displays colored bars that are indicative of the value in the cell. (The more the cell is filled in, the higher its value compared to the other cells in the range.)
- **Color Scales:** Uses different shades of color to represent different values, from low to high.
- **Icon Sets:** Applies graphics to usually indicate a cell's value.

Here, we have added an icon set to our data:

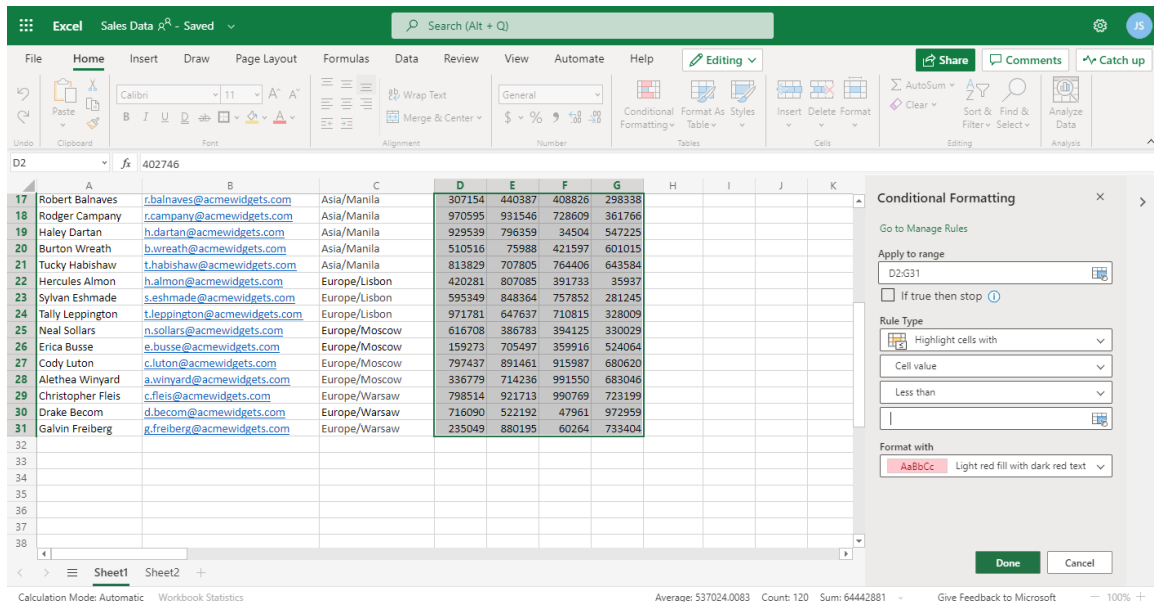
	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328	
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250	
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854	
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181	
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611	
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437	
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833	
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156	
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950	
11	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	

Setting Conditional Formatting Options

The options in the top two categories in the **Conditional Formatting** menu (Highlight Cells Rules and Top/Bottom Rules) require you to set advanced options before they can be applied. Let's use the **Less Than** style as an example:



The Conditional Formatting sidebar menu will open:



Most of the fields will be pre-populated. In the fourth field under the **Rule Type** heading, enter the value we want to look for. In this example, we want to select values less than \$250,000:

Conditional Formatting

Go to Manage Rules

Apply to range

D1:G31

If true then stop ⓘ

Rule Type

Highlight cells with

Cell value

Less than

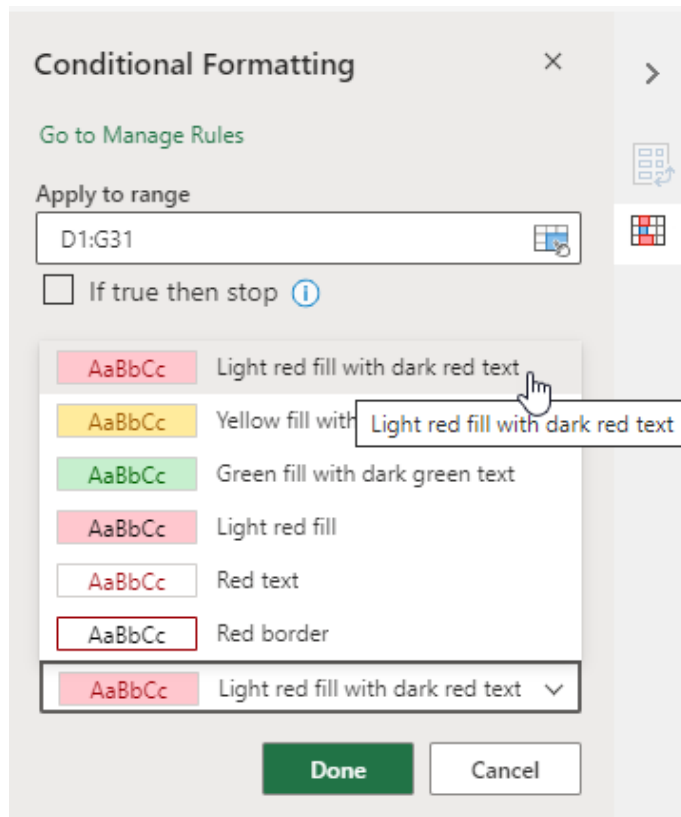
250000

Format with

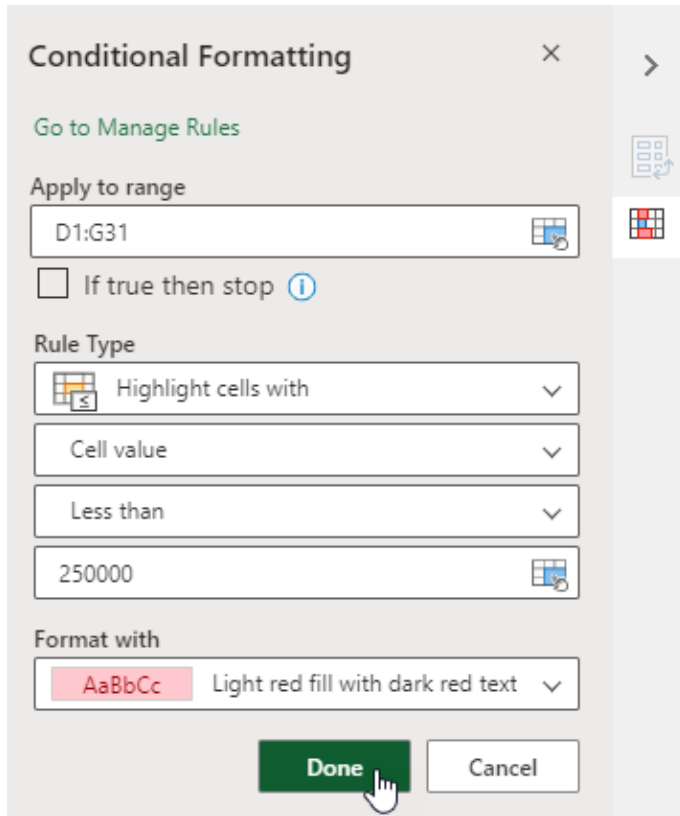
AaBbCc Light red fill with dark red text

Done Cancel

Then, under the **Format with** heading, we can choose the formatting we want to use. In this example, we want values less than \$250,000 to be formatted with red text:



Then click **Done**:



Here are the results:

	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328	
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250	
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854	
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181	
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611	
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437	
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833	
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156	
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950	
11	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	

Clearing Conditional Formatting

To remove conditional formatting rules, click **Home** → **Conditional Formatting** → **Clear Rules**, and choose what you want to clear:

The screenshot shows the Microsoft Excel Online interface. The 'Home' tab is active, and the 'Conditional Formatting' dropdown menu is open. The 'Clear Rules' option is selected, and a sub-menu is displayed with two options: 'Clear Rules from Selected Cells' and 'Clear Rules from Entire Sheet'. The background shows a spreadsheet with columns A through Q and rows 7 through 28. The data includes names, email addresses, regions, and numerical values. The 'Conditional Formatting' menu is open, and the 'Clear Rules' option is highlighted, with a sub-menu showing 'Clear Rules from Selected Cells' and 'Clear Rules from Entire Sheet'.

	A	B	C	D	E	F	G
7	Космина Шекетмур	kosheer.morer@acmewidgets.com	America/Toronto	474177	352580	352094	45
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	66
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	70
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	83
11	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Bangkok	308928	867563	182177	65
12	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Bangkok	838056	656136	183799	73
13	Ebonee Louch	e.louch@acmewidgets.com	Asia/Bangkok	366306	115862	350344	88
14	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	78557	192961	950871	83
15	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	16
16	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	23
17	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338
18	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766
19	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225
20	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015
21	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584
22	Hercules Almon	h.almon@acmewidgets.com	Europe/Lisbon	420281	807085	391733	35937
23	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	595349	848364	757852	281245
24	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	971781	647637	710815	328009
25	Neal Sollars	n.sollars@acmewidgets.com	Europe/Moscow	616708	386783	394125	330029
26	Erica Busse	e.busse@acmewidgets.com	Europe/Moscow	159273	705497	359916	524064
27	Cody Luton	c.luton@acmewidgets.com	Europe/Moscow	797437	891461	915987	680620
28	Alethea Winyard	a.winyard@acmewidgets.com	Europe/Moscow	336779	714236	991550	683046

All conditional formatting rules will then be removed.

Activity 3-5: Applying Conditional Formatting

You have some ideas on how conditional formatting can make your financial data easier to interpret. In this activity, you will experiment with a few different types of conditional formatting rules.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 3-5 from OneDrive.
2. First, we want to identify revenues under \$250,000. Select the **Revenues** column:

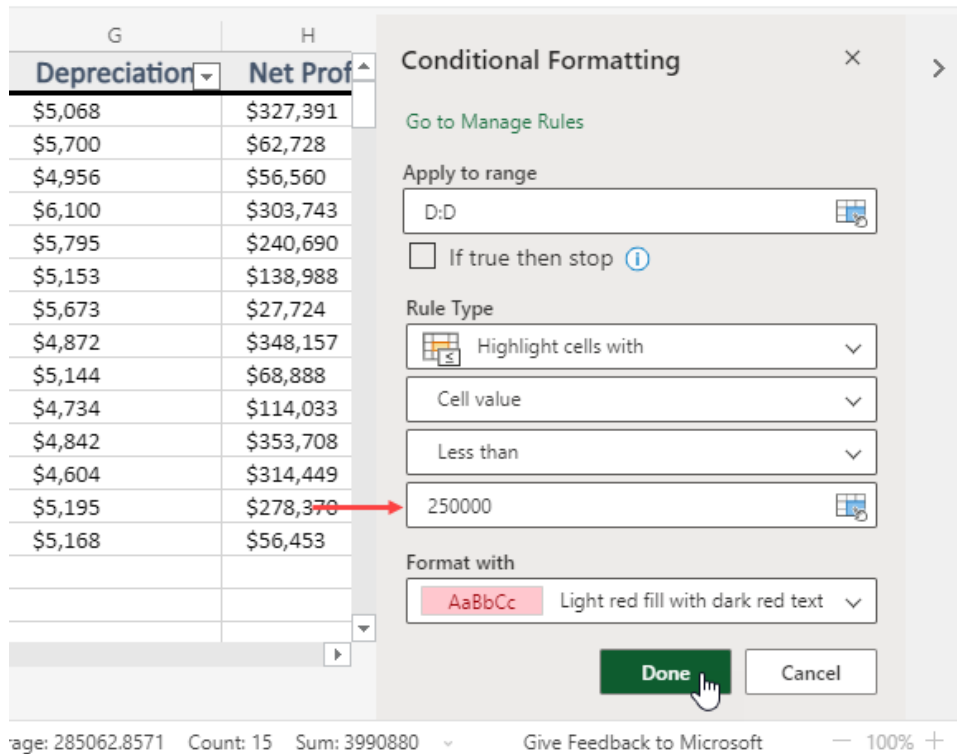
The screenshot shows the Excel Online interface with the 'Revenues' column (column D) selected. The table contains the following data:

	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,616	\$67,388	\$68,228	\$5,700	\$62,728
6	Conversville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Farrington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittenlana	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

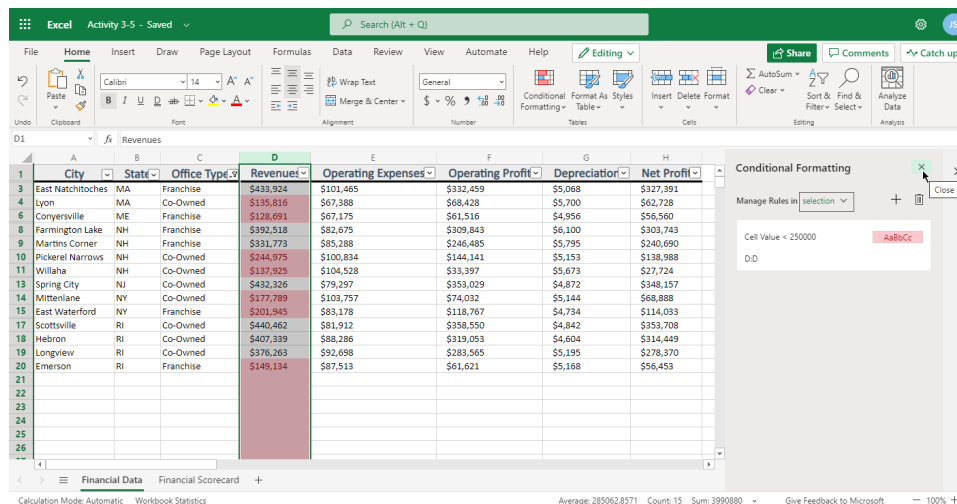
3. Click **Conditional Formatting** → **Highlight Cells Rules** → **Less Than**:

The screenshot shows the 'Conditional Formatting' menu open in the Excel Online interface. The 'Less Than' option is highlighted. The underlying data table is the same as in the previous screenshot.

- The Conditional Formatting sidebar menu will open. Type “250000” in the fourth field under the Rule Type heading, leave the formatting set at the default setting, and click **Done**:



- The formatting will be applied. Close the Conditional Formatting sidebar menu:



6. Now let's add an icon set to the **Net Profit** column. Select the column:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenue	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchtoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
6	Conversville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Farrington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittlenane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

7. Click **Home** → **Conditional Formatting** → **Icon Sets** → **3 Symbols (circled)**:

The screenshot shows the Conditional Formatting task pane on the right side of the Excel interface. The 'Icon Sets' option is selected in the left-hand menu. In the 'Icon Sets' section, the '3 Symbols (Circled)' icon set is highlighted with a black box. The task pane also shows other options like 'Directional', 'Color Scales', 'Shapes', and 'Ratings'.

8. Review the results:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenue	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickrel Narrowes	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittenlana	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

9. The red formatting applied to the empty section of Column D now looks a bit strange. Click cell D21 and press **Ctrl + Shift + ↓** on your keyboard to select it and all cells below it. Then, click **Home** → **Conditional Formatting** → **Clear Rules** → **Clear Rules from Selected Cells**:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenue	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickrel Narrowes	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittenlana	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

10. The formatting will now be cleaned up:

	A	B	C	D	E	F	G	H	I	J	K	L
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit				
3	East Natchtoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391				
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728				
6	Conversville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560				
8	Farrington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743				
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690				
10	Pickrel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988				
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724				
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157				
14	Mittenlani	NY	Co-Owned	\$177,769	\$103,797	\$74,022	\$5,144	\$68,888				
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033				
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708				
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449				
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370				
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453				
21												
22												
23												
24												
25												
26												

11. Close the Excel browser tab to complete this activity.

Summary

In this lesson, you learned how to format different aspects of a worksheet. You should feel comfortable formatting data using fonts, borders, fills, number formats, and alignment tools. You should also feel comfortable applying conditional formatting and locating data using the Find & Select menu.

Review Questions

- 1. What does the Format Painter do?**
- 2. Formulas always start with what symbol?**
- 3. When you select a range of data, where are automatic calculations displayed?**
- 4. What commands are available on the Home → Merge & Center dropdown menu?**
- 5. True or False: Cell references are case-sensitive.**

LESSON 4: ADDING PICTURES AND SHAPES

Lesson Objectives

In this lesson you will learn how to:

- Insert pictures and shapes
- Format shapes

TOPIC A: Inserting Pictures

Like many other Microsoft Office programs, Excel allows you to add pictures to its worksheets. Some basic editing commands are also provided.

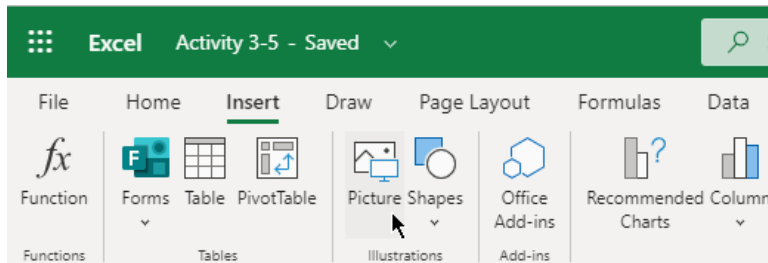
Topic Objectives

In this session, you will learn how to:

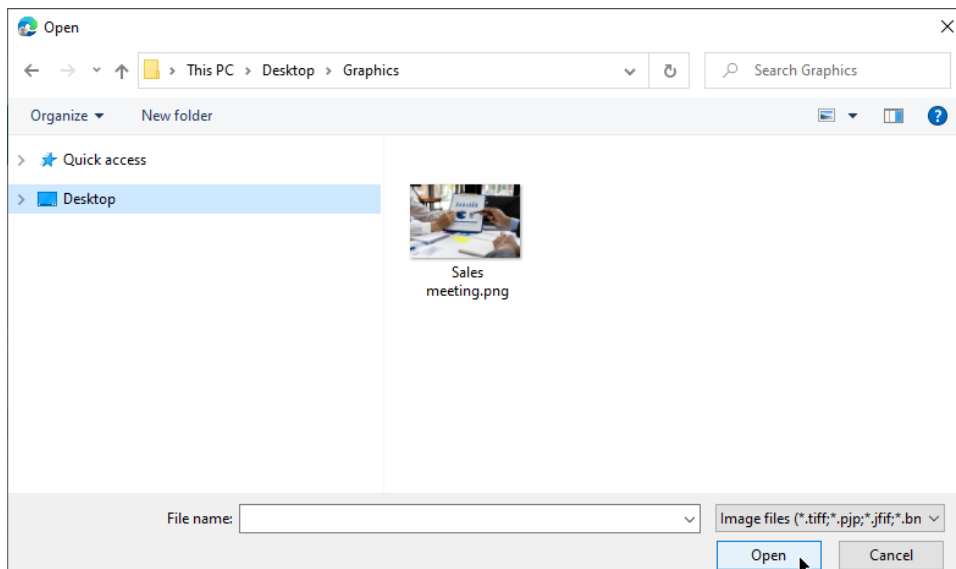
- Insert, rotate, resize, and delete pictures
- Add alternative text to pictures

Inserting Pictures

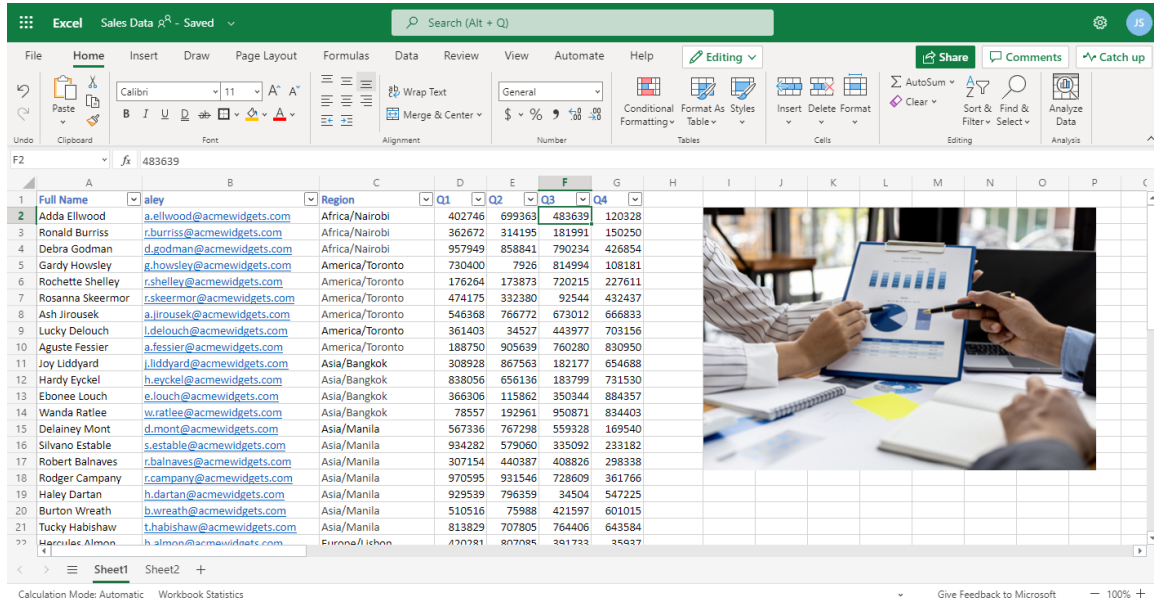
To insert a picture from a file on your computer, select the cell where you want the picture to go. Then, click **Insert** → **Picture**:



You will then be prompted to locate and choose the file. Click **Open** when you are ready:

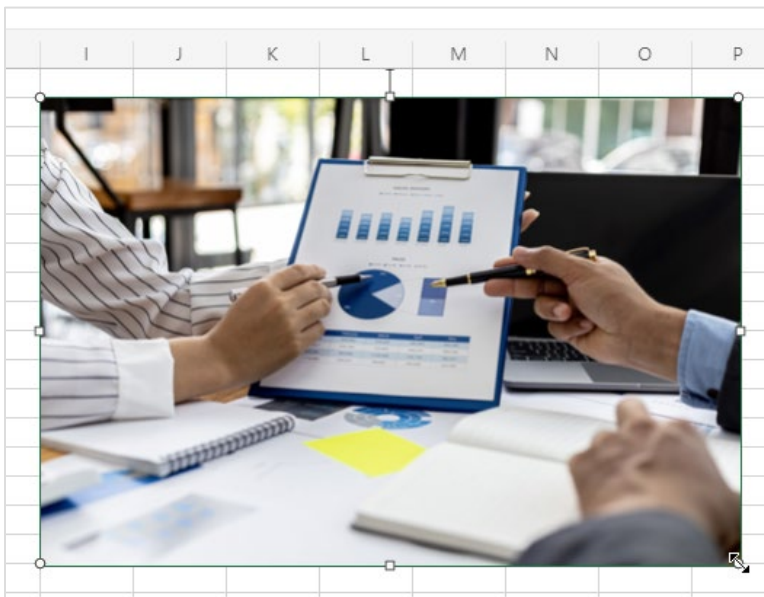


The picture will then be added to the current worksheet:



Resizing Pictures

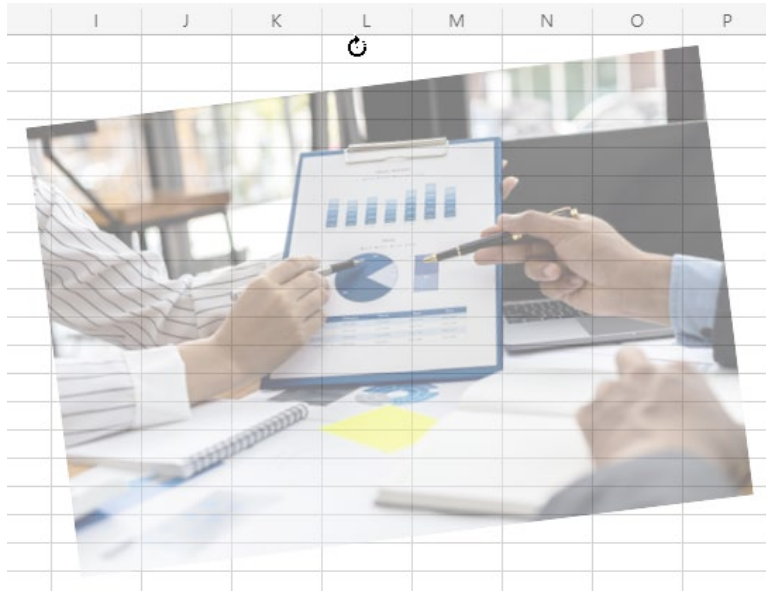
To resize a picture, click it to select it. Then, click and drag any of the handles to resize the photo in that direction. As you drag the handles, you will see the photo become larger or smaller, depending on the direction that you drag in:



Once you release your mouse, the operation will be complete.

Rotating Pictures

To rotate a picture, click and drag the circular handle at the top of the picture:



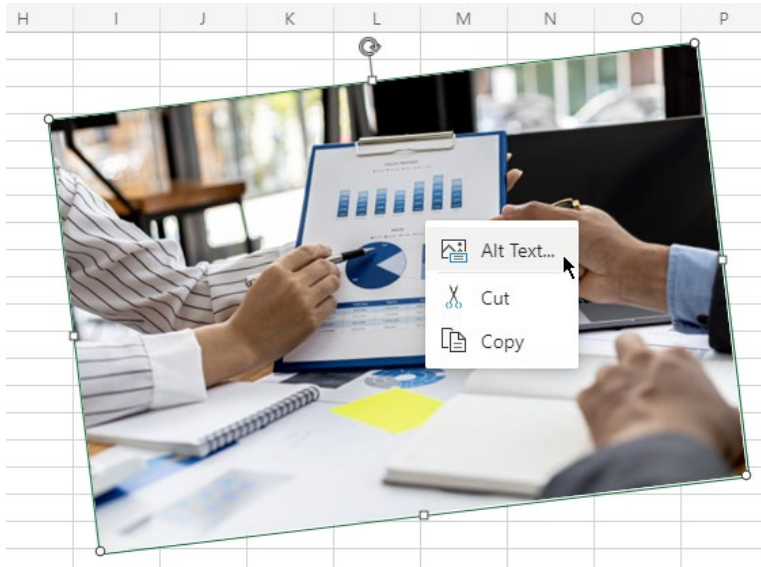
Release the mouse when the picture is at the desired angle.

Deleting Pictures

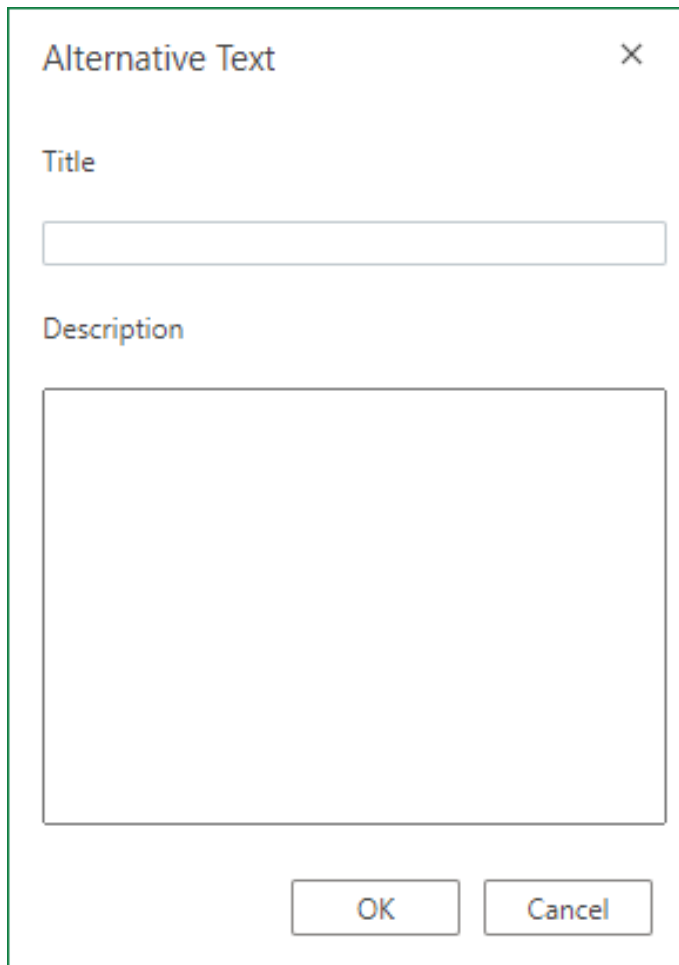
To delete a picture, click it to select it and press the **Backspace** key. The picture will immediately be removed.

Adding Alternative Text

Alternative text refers to text that is assigned to an object so that it can be used by screen readers to describe a picture to users with visual impairments. To add alternative text to a picture, right-click it and click **Alt Text**:



The Alternative Text dialog box will open:



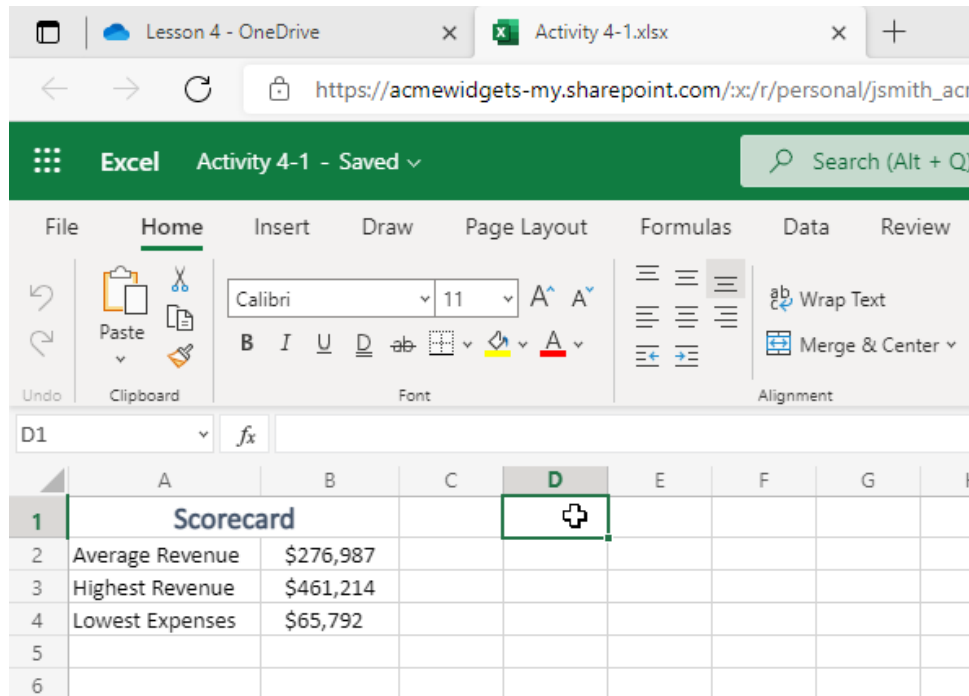
The image shows a dialog box titled "Alternative Text" with a close button (X) in the top right corner. Inside the dialog, there is a "Title" label followed by a single-line text input field. Below that is a "Description" label followed by a larger multi-line text input area. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Enter the picture's title and description and then click **OK** to apply it.

Activity 4-1: Inserting Pictures

In this activity, you will add a picture to the financial data report.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 4-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. Ensure the **Financial Scorecard** worksheet is active and select cell **D1**:

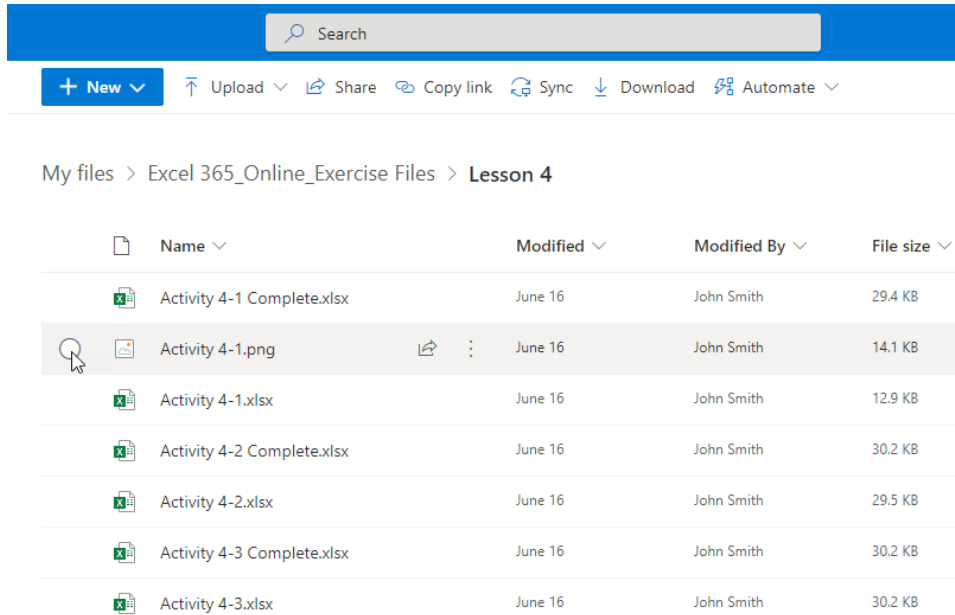


The screenshot shows the Microsoft Excel Online interface. The browser address bar displays the URL: https://acmewidgets-my.sharepoint.com/:x/r/personal/jsmith_acr. The Excel ribbon is visible, with the 'Home' tab selected. The ribbon includes sections for Font (Calibri, size 11, Bold, Italic, Underline, Paragraph), Alignment (Wrap Text, Merge & Center), and other options. The worksheet grid shows the following data:

	A	B	C	D	E	F	G
1	Scorecard						
2	Average Revenue	\$276,987					
3	Highest Revenue	\$461,214					
4	Lowest Expenses	\$65,792					
5							
6							

Cell D1 is selected, and the formula bar shows a plus sign (+).

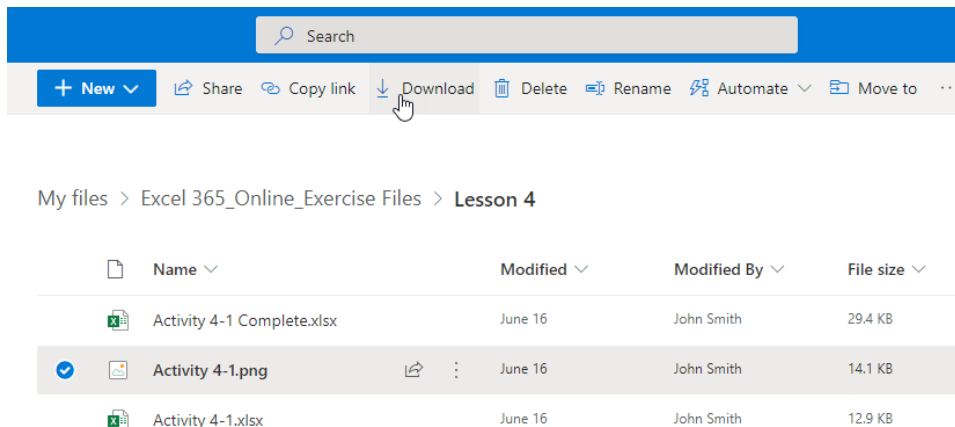
- Now you want to insert an image. To insert an image in Excel Online, it must be downloaded onto your computer. So first, you need to download the sample image from OneDrive to your computer. Navigate back to OneDrive, and click the checkbox next to **Activity 4.1.png** to select it:



The screenshot shows the OneDrive interface with a search bar and a toolbar containing options like New, Upload, Share, Copy link, Sync, Download, and Automate. Below the toolbar, the breadcrumb path is "My files > Excel 365_Online_Exercise Files > Lesson 4". A table lists files with columns for Name, Modified, Modified By, and File size. The file "Activity 4-1.png" is highlighted, and a mouse cursor is pointing at its selection checkbox.

Name	Modified	Modified By	File size
Activity 4-1 Complete.xlsx	June 16	John Smith	29.4 KB
Activity 4-1.png	June 16	John Smith	14.1 KB
Activity 4-1.xlsx	June 16	John Smith	12.9 KB
Activity 4-2 Complete.xlsx	June 16	John Smith	30.2 KB
Activity 4-2.xlsx	June 16	John Smith	29.5 KB
Activity 4-3 Complete.xlsx	June 16	John Smith	30.2 KB
Activity 4-3.xlsx	June 16	John Smith	30.2 KB

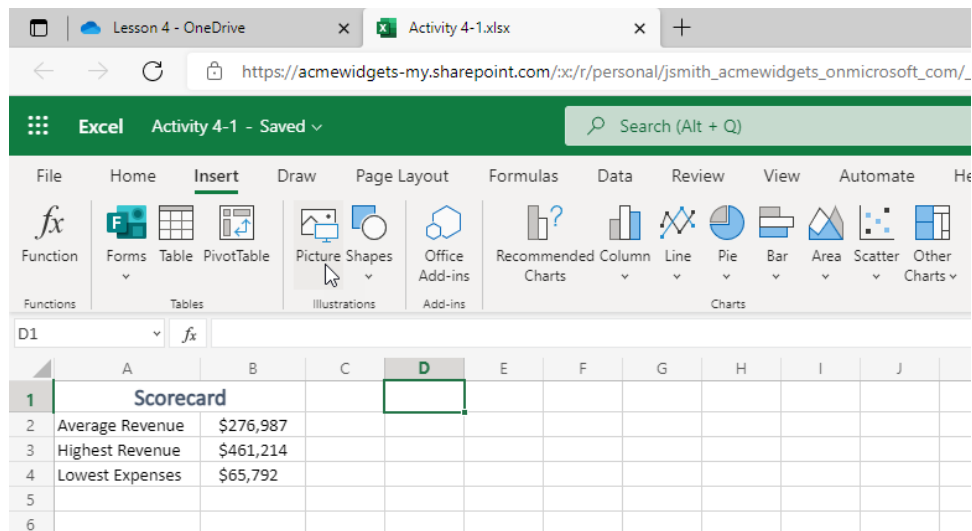
- Click **Download**:



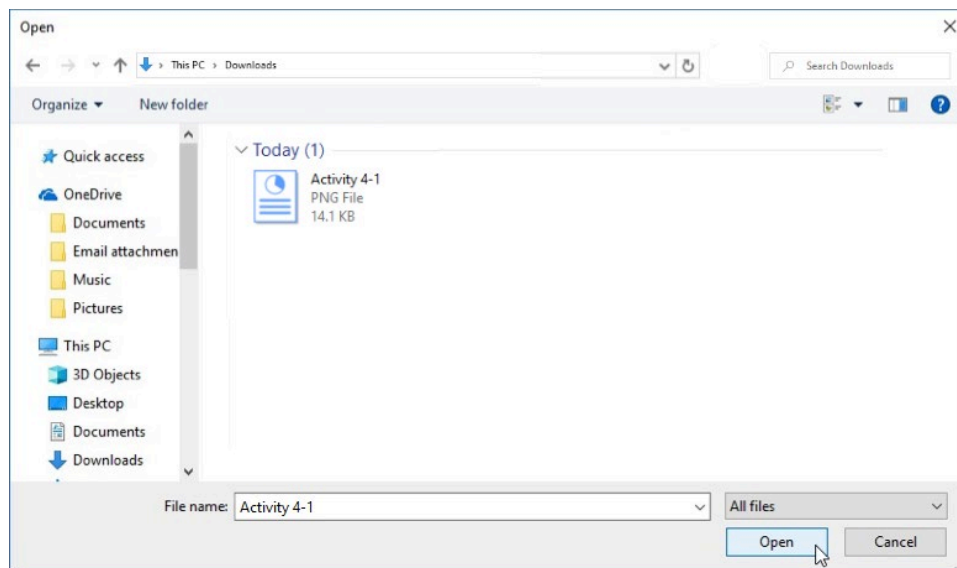
The screenshot shows the OneDrive interface with the same breadcrumb path. The file "Activity 4-1.png" is now selected, indicated by a blue checkmark in the selection column. A mouse cursor is clicking on the "Download" button in the toolbar.

Name	Modified	Modified By	File size
Activity 4-1 Complete.xlsx	June 16	John Smith	29.4 KB
Activity 4-1.png	June 16	John Smith	14.1 KB
Activity 4-1.xlsx	June 16	John Smith	12.9 KB

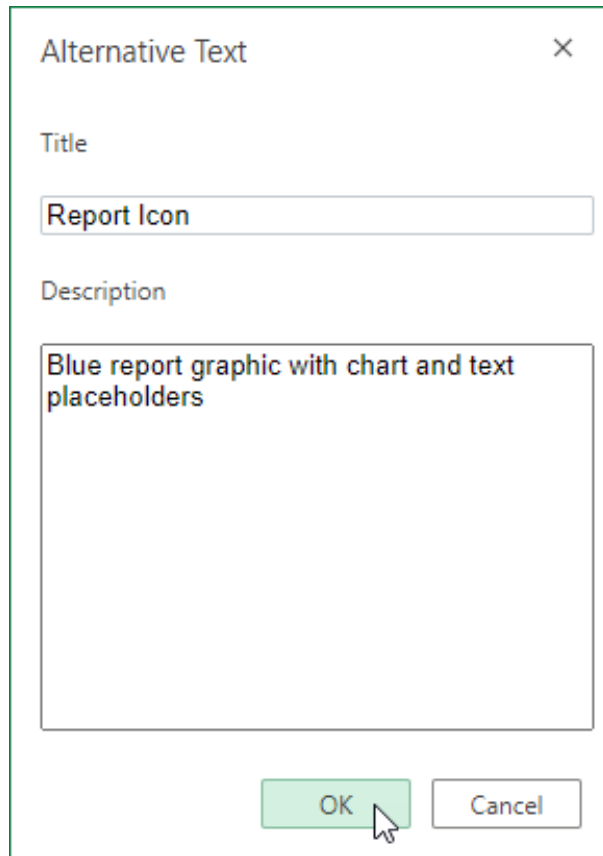
5. Return to Activity 4-1 in Excel Online and ensure cell D1 is still selected. Click **Insert** → **Picture**:



6. The image we just downloaded should appear in your Downloads folder, or whichever folder you have selected as the default for downloads. Navigate to this folder, select the **Activity 4-1** image, and click **Open**:



9. The Alternative Text dialog box will open. Enter **“Report Icon”** for the title and **“Blue report graphic with chart and text placeholders”** for the description. Click **OK**:



The image shows a screenshot of the 'Alternative Text' dialog box in Microsoft Excel Online. The dialog box has a title bar with the text 'Alternative Text' and a close button (X). Below the title bar, there are two input fields: 'Title' and 'Description'. The 'Title' field contains the text 'Report Icon'. The 'Description' field contains the text 'Blue report graphic with chart and text placeholders'. At the bottom of the dialog box, there are two buttons: 'OK' and 'Cancel'. A mouse cursor is pointing at the 'OK' button.

10. Close the Excel browser tab to complete this activity.

TOPIC B: Inserting Shapes

Excel also allows you to insert shapes into a workbook. If you have worked with shapes in other Microsoft Office programs, these commands are quite similar.

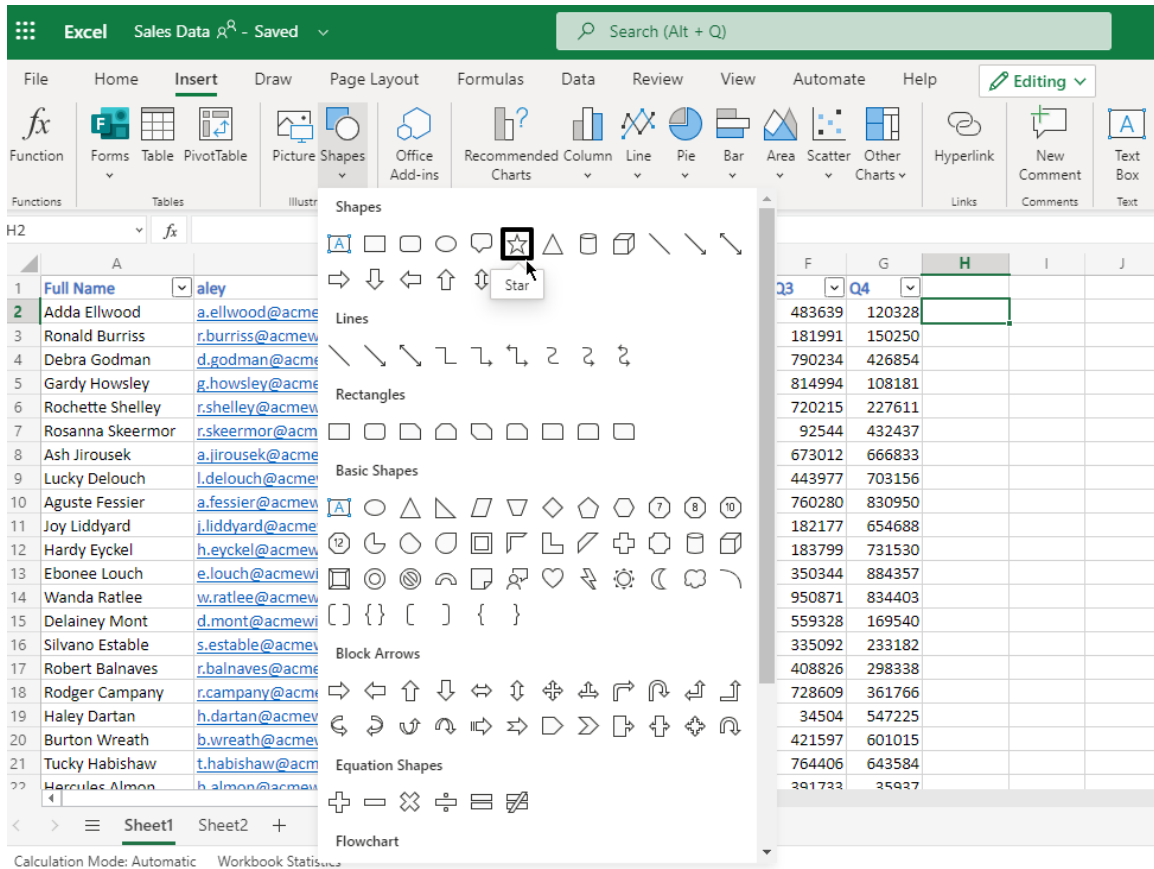
Topic Objectives

In this session, you will learn how to:

- Insert, resize, and delete shapes
- Use the Shape contextual tab

Inserting Shapes

To insert a shape into the current worksheet, click **Insert** → **Shapes** and click the shape you want to add:



The shape will now appear on the worksheet and the **Shape** tab will become available:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to the **Shape** tab. The ribbon includes the **Edit Shapes** group with a **Change Shape** dropdown and the **Shape Styles** group with a gallery of seven styles (black, blue, orange, grey, yellow, light blue, green) and **Fill** and **Outline** dropdowns. On the worksheet, a blue 5-point star shape is inserted into cell H8. The worksheet data is as follows:

	A	B	C	D	E	F	G	H	I	J	K
1	Full Name	aley	Region	Q1	Q2	Q3	Q4				
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328				
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250				
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854				
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181				
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611				
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437				
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833				

The Shape Tab

Let's take a closer look at the **Shape** tab:

This close-up screenshot shows the **Shape** tab ribbon. On the left, the **Edit Shapes** group contains the **Change Shape** dropdown menu. The **Shape Styles** group features a gallery of seven pre-configured styles: black, blue, orange, grey, yellow, light blue, and green. To the right of the gallery are the **Fill** and **Outline** dropdown menus.

There are two groups on this tab. The **Edit Shapes** group provides access to the **Change Shape** command. The **Shape Styles** group includes a gallery of pre-configured styles and commands to customize the shape's fill and outline.

Resizing Shapes

Resizing a shape is just like resizing a photo: click it to select it and then click and drag any of the handles.



Once you release your cursor, the shape will be resized.

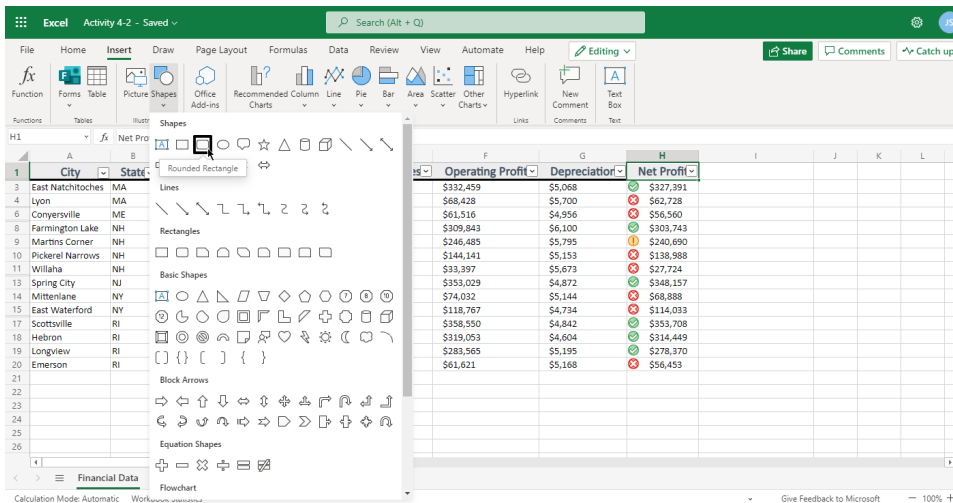
Deleting Shapes

To delete a shape, click it to select it and press the **Backspace** key. The shape will immediately be deleted, and can only be recovered if you undo the delete action right away.

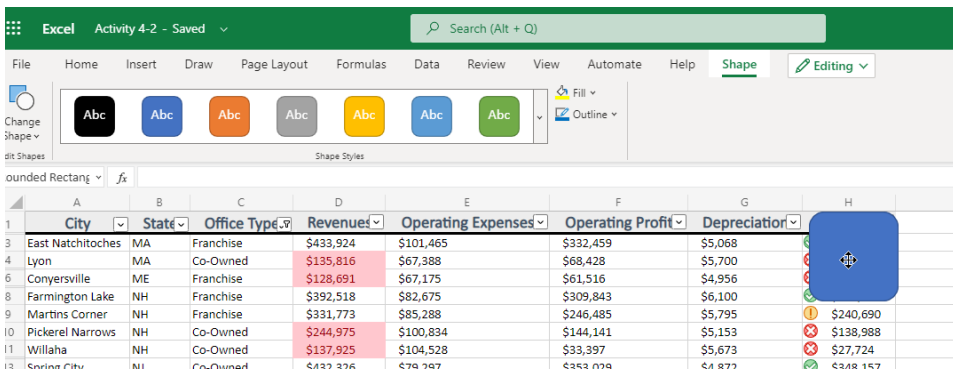
Activity 4-2: Inserting Shapes

In this activity, you will add a shape to the financial data report.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 4-2 from OneDrive.
2. Ensure the Financial Data worksheet is active. We want to add a highlight to the Net Profit column. To begin, click **Insert** → **Shapes** → **Rounded Rectangle**:



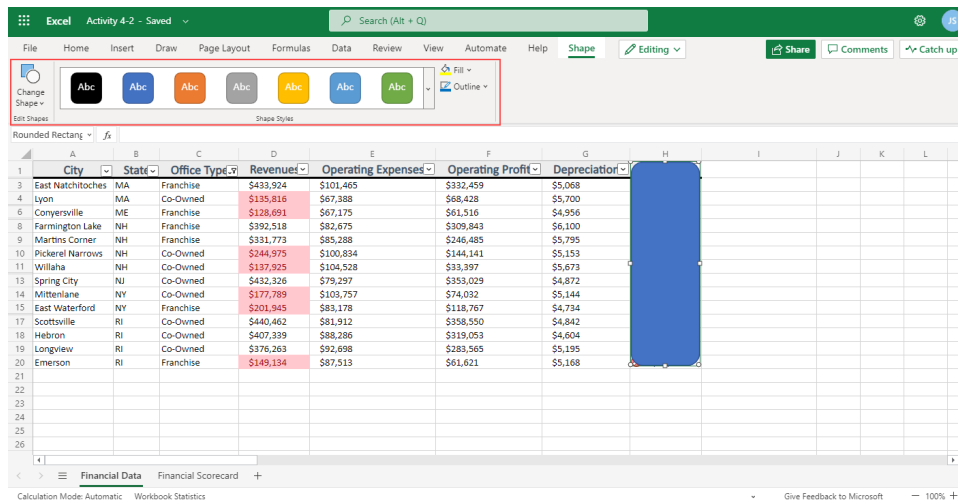
3. The shape will be inserted. Click and drag it to move it to the top of **Column H**:



- Now, click and drag the bottom right handle down and to the right so it covers all of Column H, like this:

G	H
Depreciation	Net Profit
\$5,068	\$327,391
\$5,700	\$62,728
\$4,956	\$56,560
\$6,100	\$303,743
\$5,795	\$240,690
\$5,153	\$138,988
\$5,673	\$27,724
\$4,872	\$348,157
\$5,144	\$68,888
\$4,734	\$114,033
\$4,842	\$353,708
\$4,604	\$314,449
\$5,195	\$278,370
\$5,168	\$75,453

- The **Shape** tab should be active. Take a moment to review its commands:



- Close the Excel browser tab to complete this activity.

TOPIC C: Formatting Shapes

This topic will continue our exploration of shapes in Excel, with a look at the formatting commands on the Shape contextual tab. We will also learn how to add alternative text to shapes.

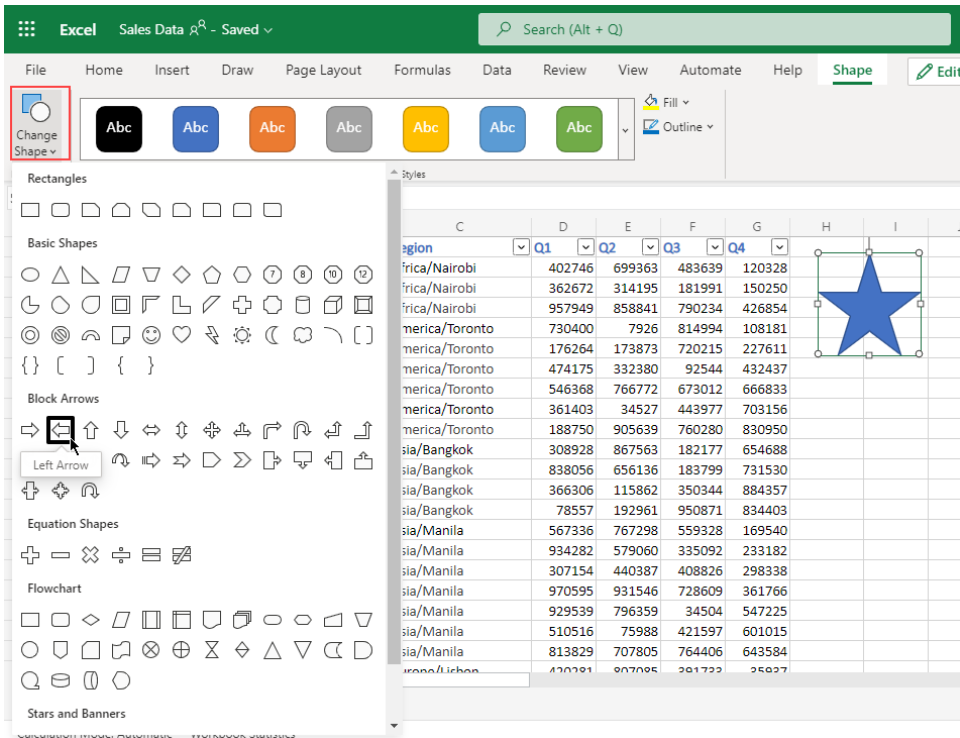
Topic Objectives

In this session, you will learn how to:

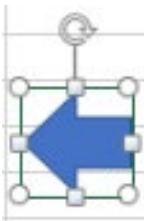
- Change a shape's type
- Apply a style to a shape
- Customize a shape's fill and outline
- Add alternative text to a shape

Changing the Shape Type

To change the type of shape, click the shape to select it. Then, click **Shape** → **Change Shape** and choose the new shape type:

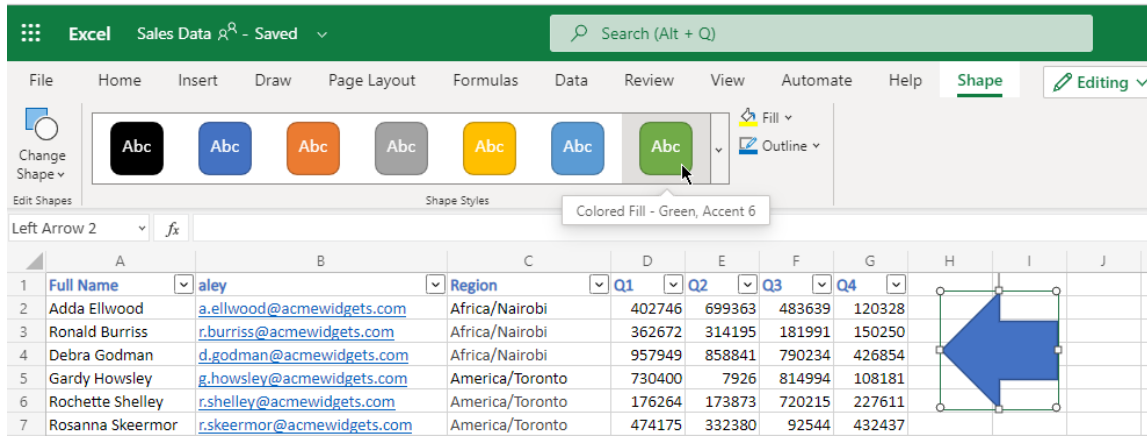


The shape type will now be changed, but its size, location, and formatting will stay the same:

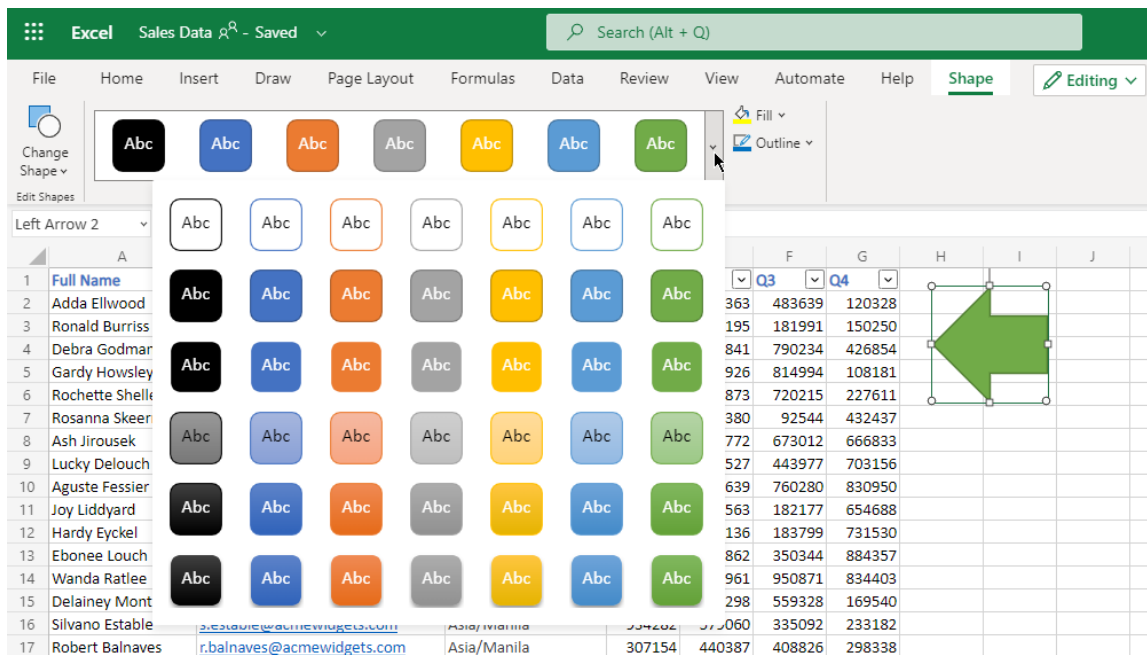


Applying a Style

To apply a pre-defined style to a shape, click it to select it and then click a thumbnail from the **Shape Styles** gallery on the **Shape** tab:

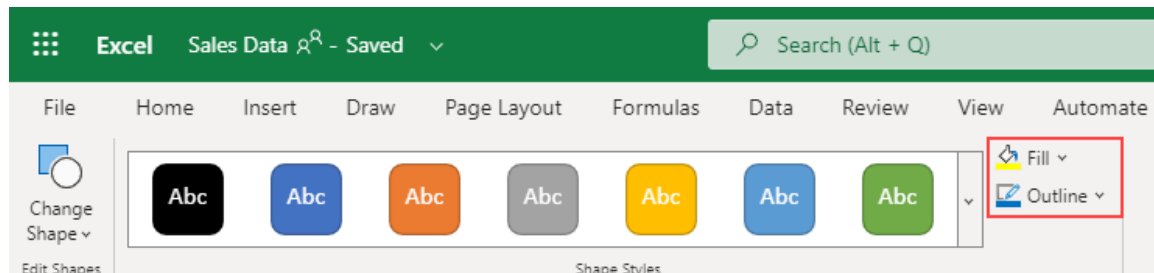


To see more options, click the dropdown arrow on the right side of the gallery:

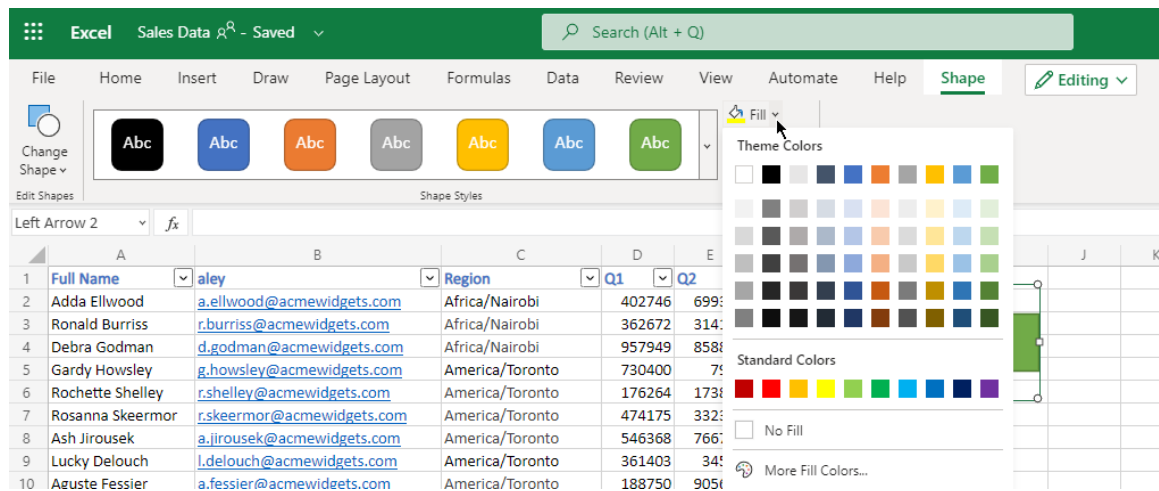


Customizing Shape Fill and Outline

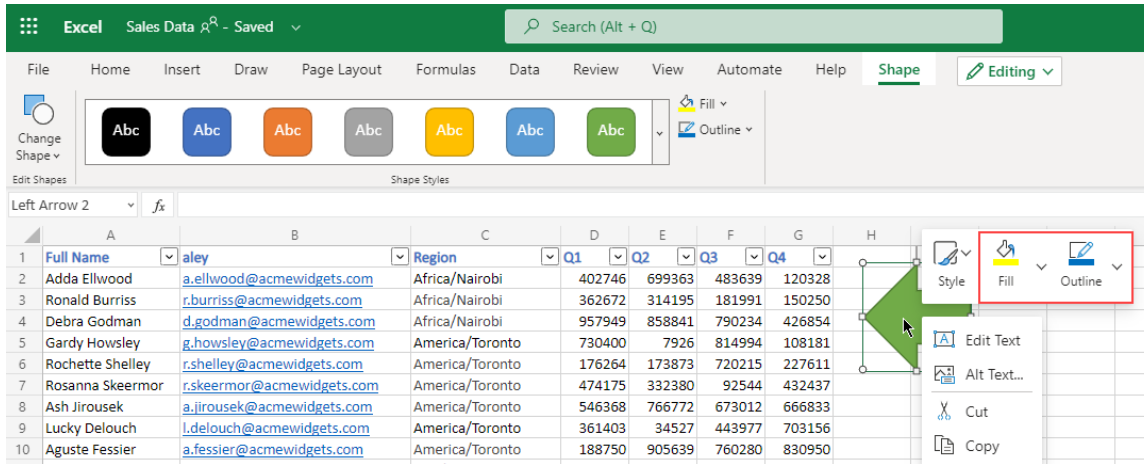
The final commands on the **Shape** tab allows you to customize a shape's fill and outline colors:



Click the button to apply the color shown on the icon, or click the dropdown arrow to choose a different color:

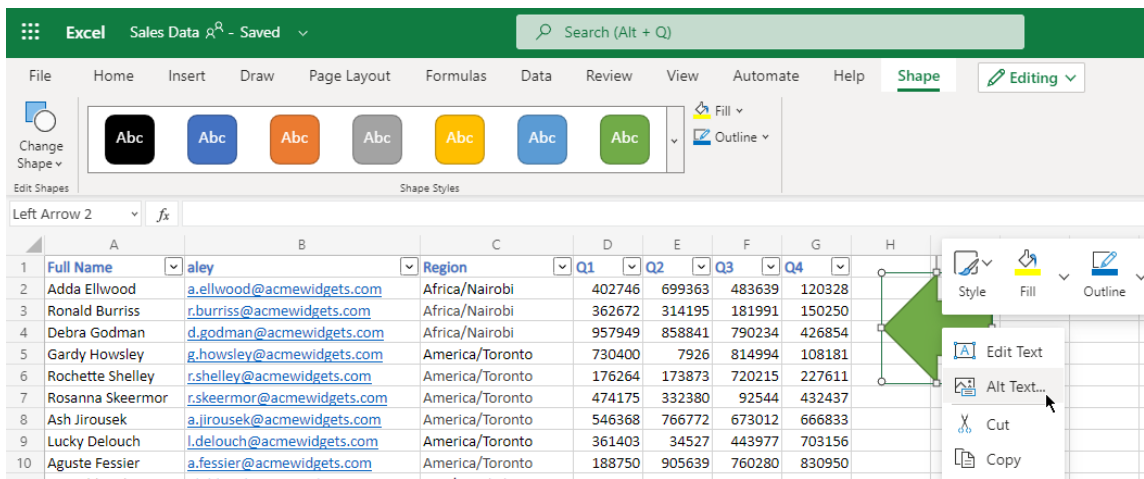


You can also access **Shape Fill** and **Outline** options by right clicking the shape, and opening the menus that appear:

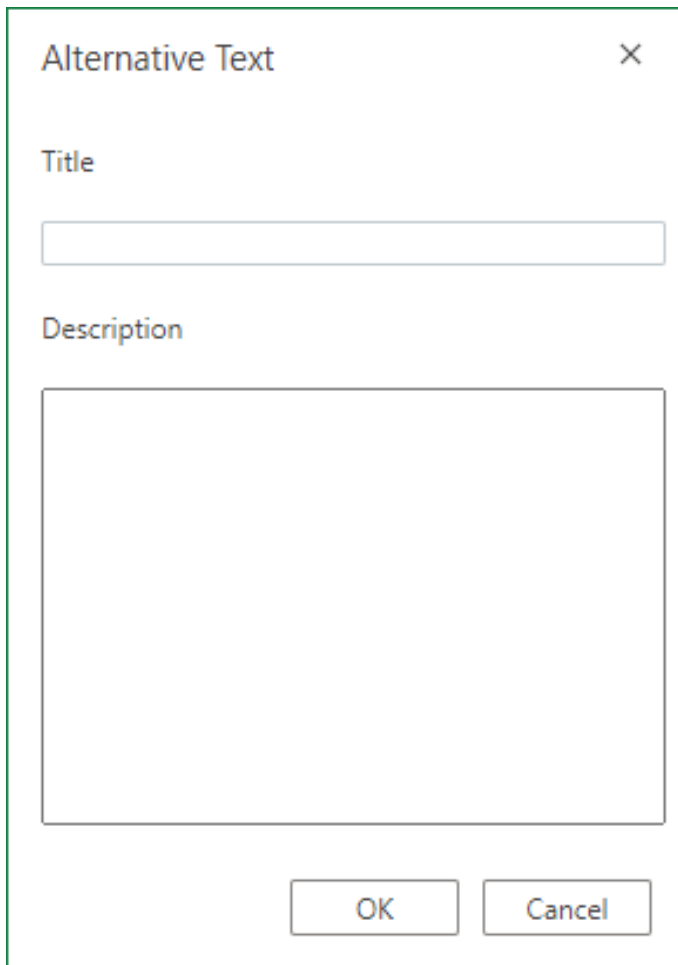


Adding Alternative Text

To add alternative text to a shape, right-click it and click **Alt Text**:



The Alternative Text dialog box will open:



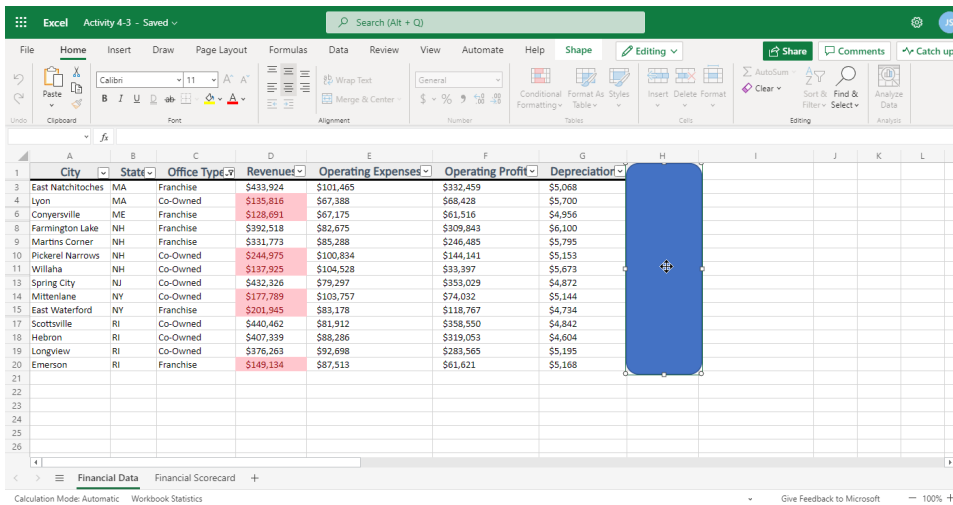
The image shows a dialog box titled "Alternative Text" with a close button (X) in the top right corner. Inside the dialog, there is a "Title" label followed by a single-line text input field. Below that is a "Description" label followed by a larger multi-line text input area. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Enter a title and description for the shape and then click **OK** to apply it.

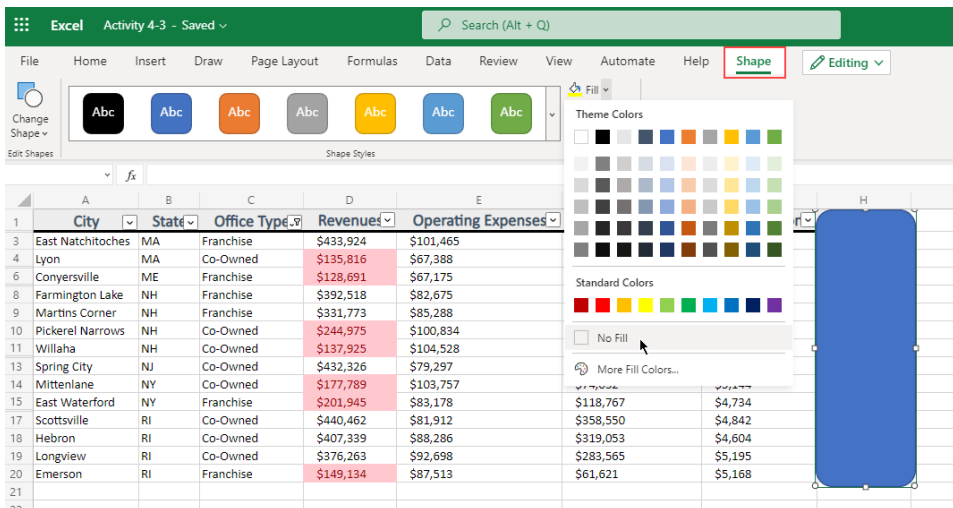
Activity 4-3: Formatting Shapes

In this activity, you will format the shape you added in the last activity.

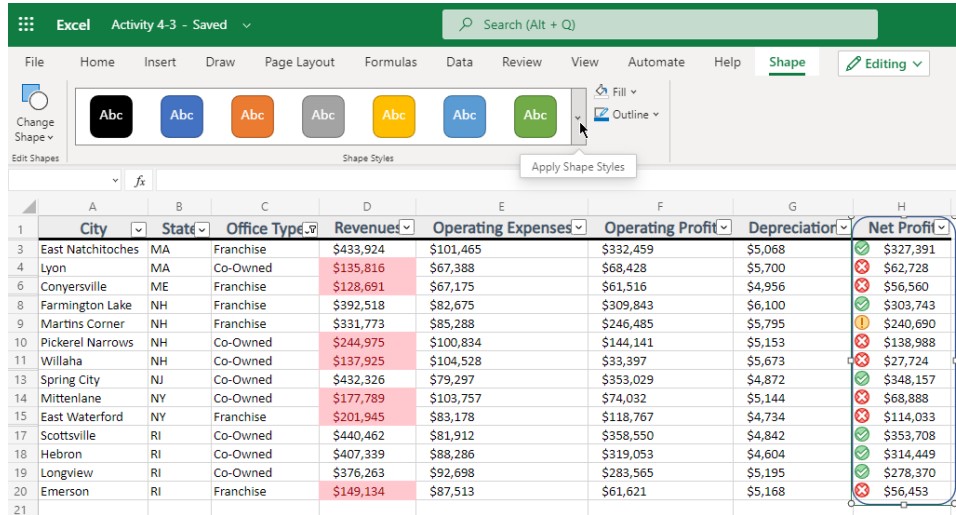
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 4-3 from OneDrive.
2. You can see a major problem with the shape we added in the last activity: it covers the data we want to highlight! Click it to select it:



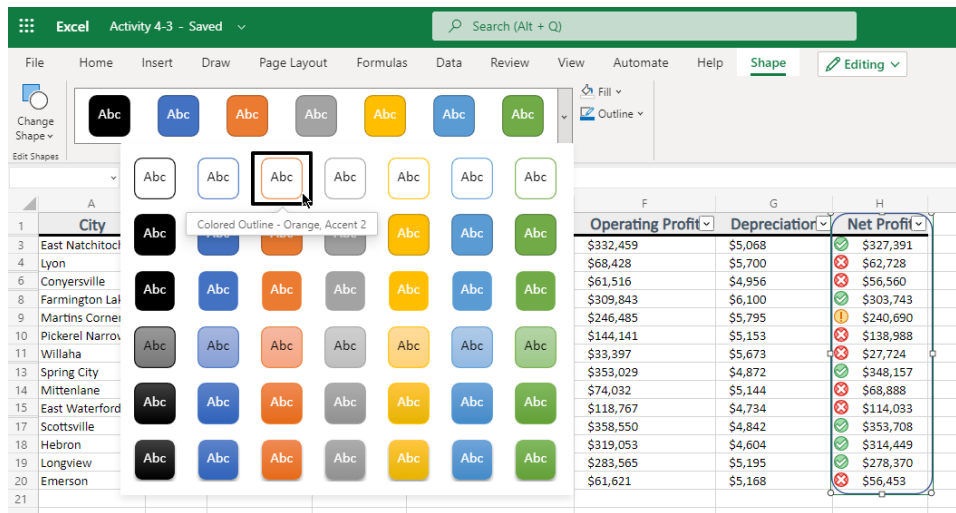
3. Click the **Shape** tab to open it. Click the **Fill** dropdown arrow and click **No Fill**:



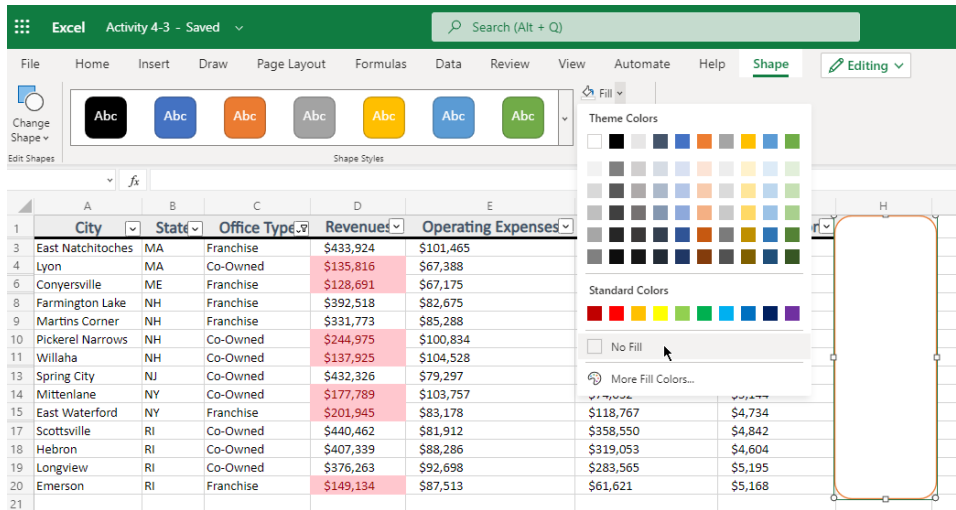
- Now we can see the data, but the highlight is not as visible as we would like it to be. Click the **Apply Shape Styles** arrow in the **Shape Styles** gallery on the **Shape** tab:



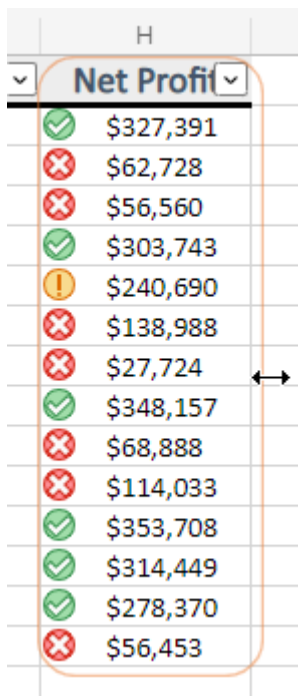
- Click the **Colored Outline – Orange, Accent 2** style:



- Click the **Fill** icon again to re-apply the **No Fill** style:



- If necessary, use the handles to resize the shape so it fits the column:



- Close the Excel browser tab to complete this activity.

Summary

In this lesson, we learned all about working with pictures and shapes in a workbook, including inserting, resizing, and formatting them.

Review Questions

1. **What types of pictures can you insert in an Excel Online workbook?**
2. **Which contextual tab provides shape formatting commands?**
3. **What does the Alt Text command for shapes and pictures do?**
4. **How do you resize a picture?**
5. **How do you change a shape's type?**

LESSON 5: ORGANIZING WORKSHEET DATA WITH TABLES AND CHARTS

Lesson Objectives

In this lesson you will learn how to:

- Create and modify tables and charts

TOPIC A: Inserting Tables

While formulas and functions are great at analyzing data within your workbook, they are more suited for entire workbooks rather than specific sets of data. If you need to analyze smaller sets of data within a large workbook or break down large sets of data into smaller parts, then converting your data into tables is often the best solution. Tables allow you to use Excel's powerful organizational capabilities without modifying the data itself.

Topic Objectives

In this session, you will learn:

- About tables
- How to create and customize a table
- How to insert and delete table rows and columns
- How to sort and filter table data

What is a Table?

A **table** is a specially designated range of information that has added functionality. You can have multiple tables per worksheet, and tables can be as large or small as the amount of data you want to work with. Tables can be created from existing data ranges or from empty ranges and then populated afterwards. As well, columns and rows may be added to a table just as you would when working with a normal range. Note, however, that once a table is created, the designation cannot be removed in Excel Online.

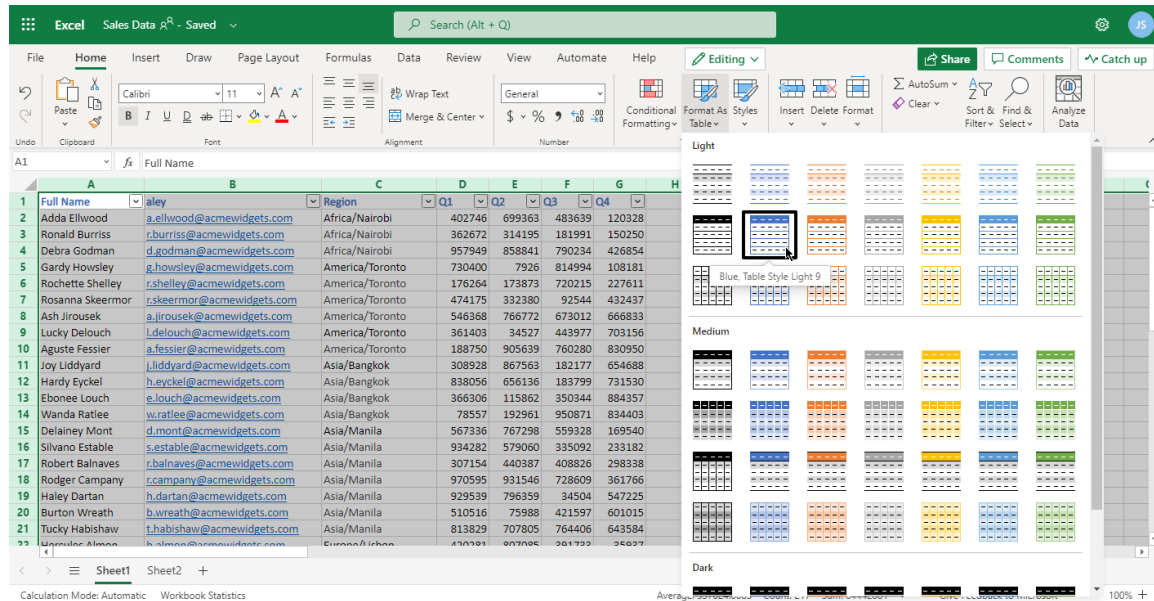
There are a number of components that come together to create a table:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250
2	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950
11	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338
14	Rodger Company	r.company@acmewidgets.com	Asia/Manila	970595	931546	728609	361766
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584
18	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688
19	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	838056	656136	183799	731530
20	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Manila	78557	192961	950871	834403
3	Total						8741871

- The **Header row (1)**, when enabled, contains column headers and the AutoFilter arrow, which allows you to sort and filter table data.
- **Banded rows (2)** allow you to easily differentiate between each row that appears within the table. This formatting feature can only be changed by manually changing the fill color.
- The **Total row (3)**, when enabled, shows a grand total for the right-most column in the table.

Creating a Table

To create a table, select the cell range that you would like to convert and then click **Home** → **Format as Table**, and select a style:

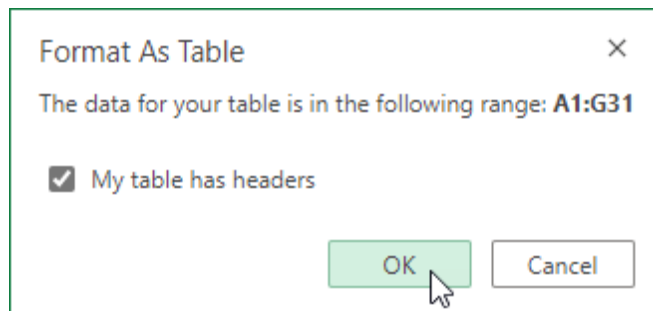


The screenshot shows the Microsoft Excel Online interface. The 'Home' tab is active, and the 'Format as Table' button is highlighted in the ribbon. A data range is selected, and the 'Format as Table' dialog box is open, showing various table styles. The data in the background is as follows:

	A	B	C	D	E	F	G
1	Full Name	ale	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950
11	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Bangkok	308928	867563	182177	654688
12	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Bangkok	838056	656136	183799	731530
13	Ebonee Louch	e.louch@acmewidgets.com	Asia/Bangkok	366306	115862	350344	884357
14	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	78557	192961	950871	834403
15	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540
16	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182
17	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338
18	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766
19	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225
20	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015
21	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584
22	Wendee Alton	w.alton@acmewidgets.com	Europe/Lisbon	430391	897066	901733	36027

(This action can also be completed by clicking **Insert** → **Table**.)

The **Format as Table** dialog box will open. You will see the range you selected already populated. Confirm it is correct, choose whether or not your table has headers, and click **OK**:



The screenshot shows the 'Format As Table' dialog box. The text inside the dialog box is as follows:

Format As Table

The data for your table is in the following range: **A1:G31**

My table has headers

OK Cancel

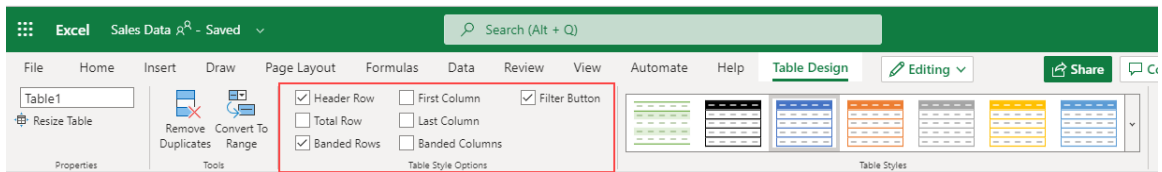
Here are the results:

	A	B	C	D	E	F	G	H
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	402746	699363	483639	120328	
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	362672	314195	181991	150250	
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	957949	858841	790234	426854	
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	730400	7926	814994	108181	
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	176264	173873	720215	227611	
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	474175	332380	92544	432437	
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	546368	766772	673012	666833	
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	361403	34527	443977	703156	
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	188750	905639	760280	830950	
11	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	567336	767298	559328	169540	
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	934282	579060	335092	233182	
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	307154	440387	408826	298338	
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	970595	931546	728609	361766	
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225	
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015	
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584	
18	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688	

Calculation Mode: Automatic Workbook Statistics Average: 537024.0083 Count: 217 Su

Customizing Row Display

Once a table is created, you can toggle various style options, including the header row and total row, under the **Table Design** tab:



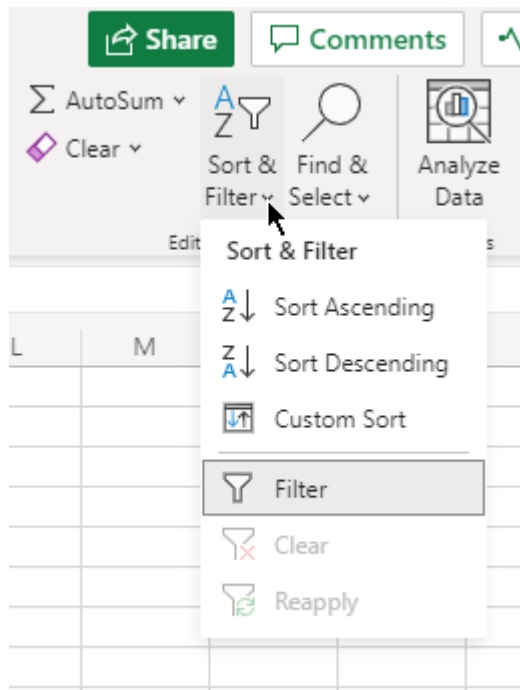
Inserting and Deleting Table Rows and Columns

You can insert and delete table rows and columns just as you would in the worksheet, although there are special command sets for table elements.

	Insert Rows/Columns	Delete Rows/Columns
Home tab	<p>Home tab ribbon: Insert Rows/Columns group. Options include: Insert, Delete, Format, AutoSum, Clear, Insert Copied Cells..., Insert Sheet Rows, Insert Sheet Columns, Insert Table Rows Above, Insert Table Columns to the Left, Insert Cells & Shift Right, Insert Cells & Shift Down, Insert Sheet.</p>	<p>Home tab ribbon: Delete Rows/Columns group. Options include: Delete, Format, AutoSum, Clear, Delete Sheet Rows, Delete Sheet Columns, Delete Table Rows, Delete Table Columns, Delete Cells & Shift Left, Delete Cells & Shift Up, Delete Sheet.</p>
Right-click menu	<p>Right-click menu: Search, Cut, Copy, Paste Options, Insert, Delete, Clear Contents, Sort, Table, New Comment, Number Format..., Hyperlink..., Show Changes. Sub-menu for Delete: Table Rows Above, Table Columns to the Left.</p>	<p>Right-click menu: Search, Cut, Copy, Paste Options, Insert, Delete, Clear Contents, Sort, Table, New Comment, Number Format..., Hyperlink..., Show Changes. Sub-menu for Delete: Table Rows, Table Column.</p>

Sorting and Filtering Table Data

You can sort and filter table data just like regular worksheet data using the **Sort & Filter** command on the **Home** tab:



Also, note that the **AutoFilter** arrow is automatically enabled, and also provides access to sorting and filtering options:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to the 'Home' tab. The active worksheet is 'Sales Data.xlsx' and the current selection is cell A1, containing the text 'Full Name'. The data table below has columns for Full Name, Email Address, Region, Q1, Q2, Q3, and Q4. The Q2 column has an AutoFilter dropdown menu open, showing options for sorting and filtering. The data in the table is as follows:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	4027			120328
3	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	3626			150250
4	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	9579			426854
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	7304			108181
6	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	1762			227611
7	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	4741			432437
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	5463			566833
9	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	3614			703156
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	1887			830950
11	Delaine Mont	d.mont@acmewidgets.com	Asia/Manila	5673			169540
12	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	9342			233182
13	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	3071			298338
14	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	9705			361766
15	Haley Dartan	h.dartan@acmewidgets.com	Asia/Manila	929539	796359	34504	547225
16	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	510516	75988	421597	601015
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Manila	813829	707805	764406	643584
18	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	308928	867563	182177	654688
19	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	838056	656136	183799	731530
20	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Manila	78557	192961	950871	834403

The AutoFilter dropdown menu for the Q2 column is open, showing the following options:

- Sort Smallest to Largest
- Sort Largest to Smallest
- Custom Sort
- Sheet View
- Clear Filter from 'Q1'
- Number Filters
- Filter...

Activity 5-1: Inserting a Table

You have decided that because the sales report will continue to grow, it is a good idea to convert the range into a table.

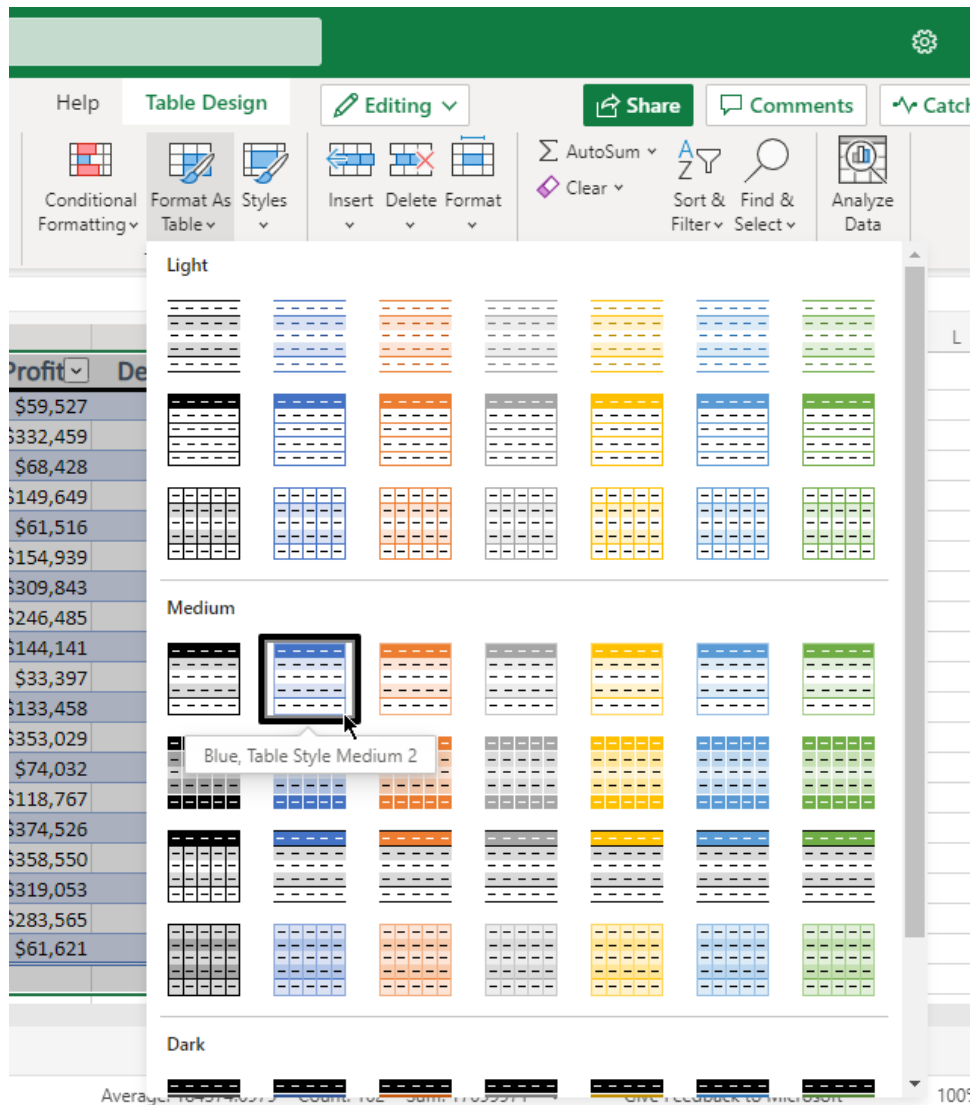
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 5-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. We want to convert the values on the Financial Data tab into a table. Select cells A1 to H20 and click **Home** → **Format as Table**:

The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home', and the 'Table Design' tab is active. The 'Format as Table' button is highlighted. Below the ribbon, the spreadsheet data is visible, showing a table with 8 columns: City, State, Office Type, Revenue, Operating Expenses, Operating Profit, Depreciation, and Net Profit. The data is organized into rows, with a total row at the bottom.

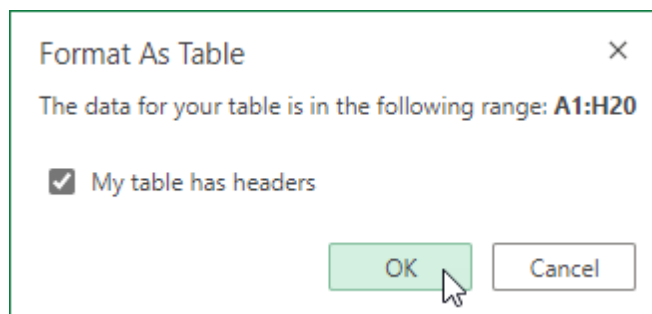
	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenue	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,605	\$149,649	\$5,089	\$144,560
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
7	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
12	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittlenlane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
16	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
21	Total							\$3,537,498

Calculation Mode: Automatic Workbook Statistics Average: 184374.6979 Count: 162 Sum: 1769901

3. Select the **Blue, Table Style Medium 2** style:



4. The Create Table dialog box will open. Ensure the **My table has headers** box is checked and click **OK**:



- The table will now be created. Notice that the conditional formatting has stayed intact:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
7	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
12	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittlenane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
16	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,265	\$92,696	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

- Now, let's add a total row to the table. Open the **Table Design** tab, and click the **Total Row** checkbox:

The screenshot shows the Excel interface with the **Table Design** tab active. The **Total Row** checkbox is checked. The table below includes the new total row for Emerson.

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
7	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
10	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
12	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
14	Mittlenane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
16	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
19	Longview	RI	Co-Owned	\$376,265	\$92,696	\$283,565	\$5,195	\$278,370
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

7. The total row will be added:

The screenshot shows the Microsoft Excel Online interface with a table containing financial data. The table has 8 columns: City, State, Office Type, Revenues, Operating Expenses, Operating Profit, Depreciation, and Net Profit. A total row has been added at the bottom, highlighted with a red border, showing a total net profit of \$3,537,498. The 'Table Design' ribbon is visible at the top, with the 'Table Style Options' section showing 'Total Row' checked.

	A	B	C	D	E	F	G	H	I	J	K	L
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit				
2	Warner	MA	Corporate	\$123,319	\$65,792	\$59,527	\$4,667	\$54,860				
3	East Natchitoches	MA	Franchise	\$433,924	\$101,405	\$332,459	\$5,066	\$327,391				
4	Lyon	MA	Co-Owned	\$135,916	\$87,388	\$68,428	\$5,700	\$62,728				
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560				
6	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560				
7	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877				
8	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743				
9	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690				
10	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,151	\$138,988				
11	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,671	\$27,724				
12	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,559	\$127,859				
13	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157				
14	Mittenlane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888				
15	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033				
16	Cottman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460				
17	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708				
18	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449				
19	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370				
20	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453				
21	Total							\$3,537,498				

8. A new set of values has been sent to us from the Augusta office in Maine. Click any blank cell to de-select the table. Then, right-click cell **A6** and click **Insert** → **Table Rows Above**:

9. Fill out the cells in this new row with the following data:

- **City:** Augusta
- **State:** ME
- **Office Type:** Corporate
- **Revenues:** 248973
- **Operating Expenses:** 29246
- **Depreciation:** 4208

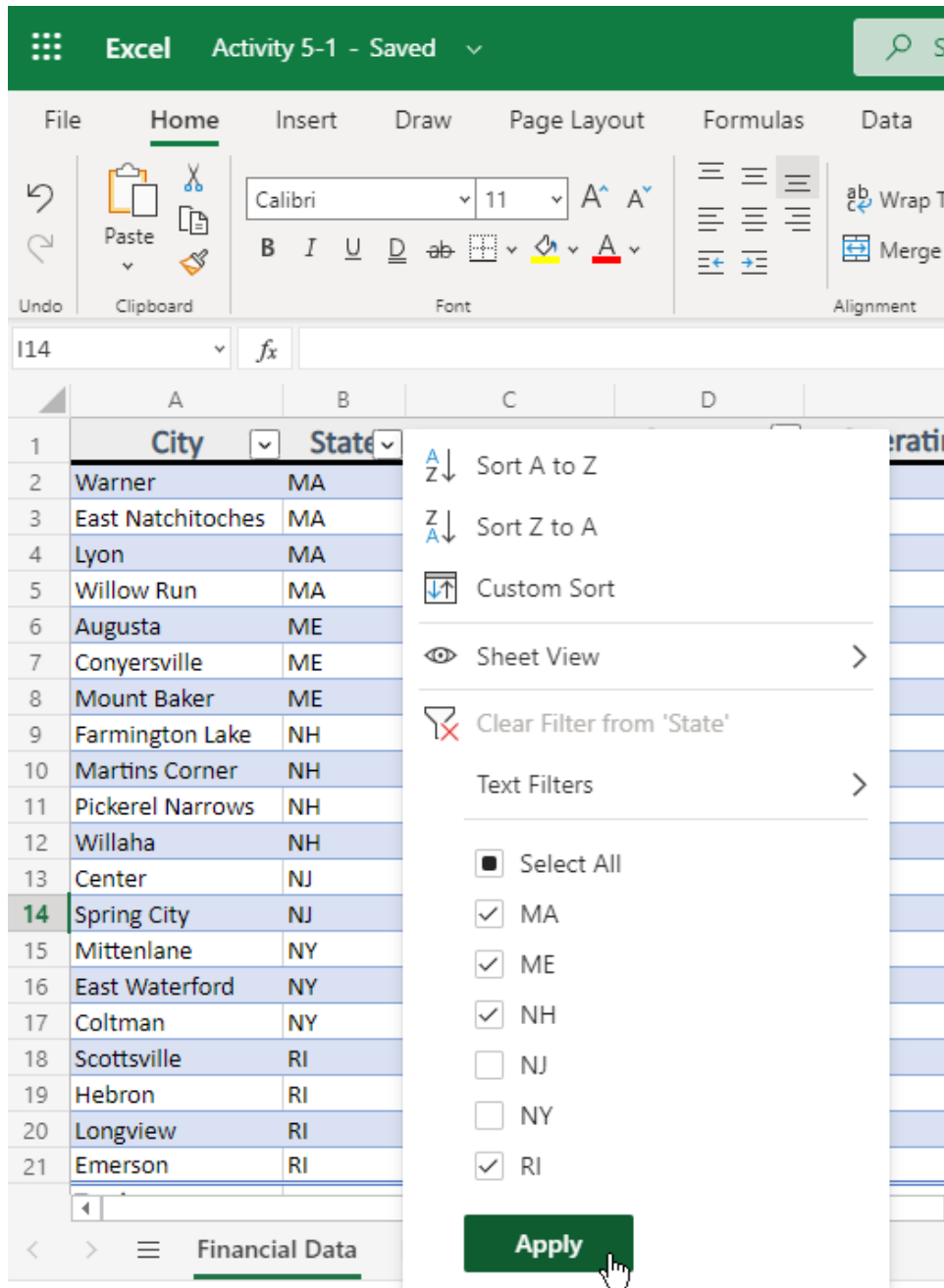
(Do not enter any data in the two profit cells; they will automatically be calculated using the column's formulas.)

10. Your results should look like this:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
15	Mittenlana	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
16	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
18	Essexville	PA	Co-Owned	\$440,453	\$91,913	\$348,540	\$4,913	\$343,627

Note that the currency number format and conditional formatting rules have been applied automatically.

11. We also want to narrow the focus of this report to only New England states. Click the **State** dropdown arrow and uncheck NJ and NY (New Jersey and New York) and click **APPLY**:



The screenshot shows the Microsoft Excel Online interface. The ribbon is set to 'Home'. The active cell is B14, containing the text 'Spring City'. The 'State' column is filtered to show only MA, ME, NH, and RI. The filter menu is open, showing options to sort and filter. The 'State' column is filtered to show only MA, ME, NH, and RI. The 'Apply' button is highlighted.

City	State
Warner	MA
East Natchitoches	MA
Lyon	MA
Willow Run	MA
Augusta	ME
Conyersville	ME
Mount Baker	ME
Farmington Lake	NH
Martins Corner	NH
Pickerel Narrows	NH
Willaha	NH
Center	NJ
Spring City	NJ
Mittenlane	NY
East Waterford	NY
Coltman	NY
Scottsville	RI
Hebron	RI
Longview	RI
Emerson	RI

12. Observe the results:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickrel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total							\$2,725,620

13. Close the Excel browser tab to complete this activity.

TOPIC B: Inserting Charts

Charts can enhance data interpretation, make trends more obvious, and increase the visual appeal of your workbooks. In this topic, you will learn how to insert charts and perform some basic tasks with them.

Topic Objectives

In this session, you will learn:

- About the types of charts available in Excel Online and their elements
- About the Charts contextual tab
- How to insert, resize, and move a chart

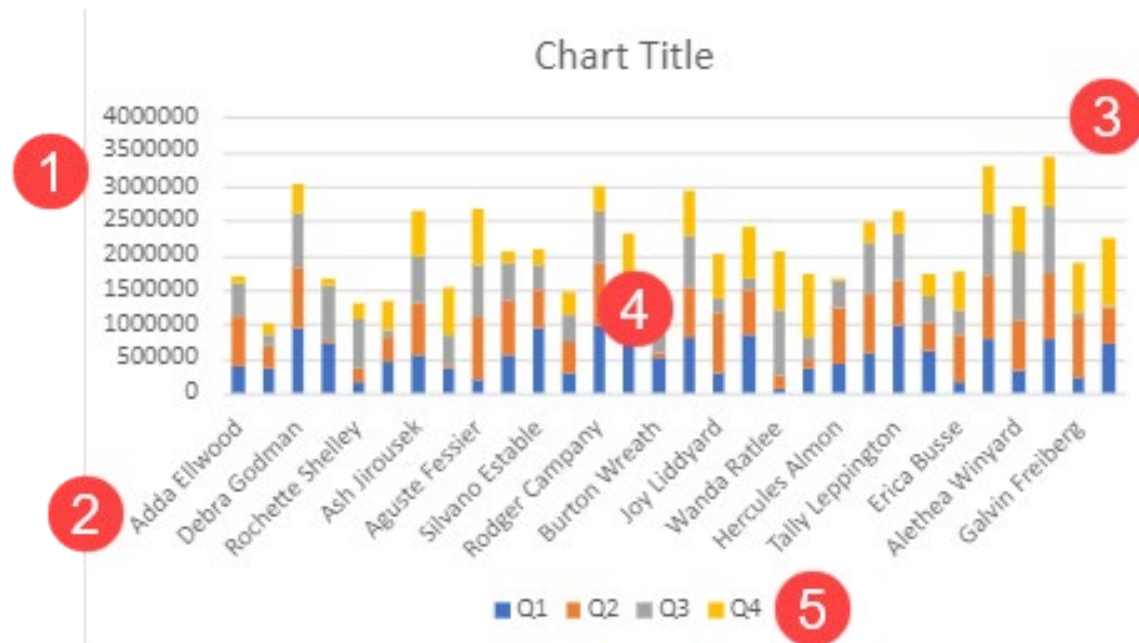
Chart Types

When creating a chart, it is important to choose the right type for your data. Below is a list of each chart type that is available in Excel Online and the type of data that each is best suited to display:

- **Column:** Used to display data changes over time or to compare separate data points.
- **Line:** Typically used to display data changes over a period of time.
- **Pie:** Used to compare different data points in relation to a total. For example, you could use this chart type to show the total expenses of a company broken down by department.
- **Bar:** Typically, this chart type is used to compare different data points. It is similar to the Column chart type, but instead has the X-axis as the vertical axis and the Y-axis as the horizontal axis.
- **Area:** This chart type is typically used to illustrate rates of change over a period of time, as well as including the total value in a trend.
- **X Y (Scatter):** Used to illustrate values from a variety of different trends and their relationship to one another.
- **Waterfall:** Shows the cumulative effect of a series of positive and negative values.
- **Funnel:** Shows the stages in a process.
- **Hierarchical:** Compares values across hierarchies. Also known as a treemap.
- **Statistical:** Includes charts for specific statistical purposes, including histogram, Pareto, and box-and-whisker.
- **Radar:** Used to compare values from multiple data sets with each separate data (category) on a separate axis. Typically, this chart type is best suited to identify outliers and commonalities between data points.

Chart Elements

Each chart type has different elements that can be customized, but most charts have the following key elements:



These items are:

1. Vertical (Y) axis
2. Horizontal (X) axis
3. Gridlines
4. Data Series
5. Legend

Inserting a Chart

To insert a chart, select the data you want to chart (including the header row). (This data can be organized in a table or located directly on the worksheet.) Then, click the **Insert** tab, choose the chart type, and choose the sub-type. Here, we are creating a stacked column chart so we can easily see each person's sales total as well as the breakdown by quarter:

The screenshot shows the Microsoft Excel Online interface. The 'Insert' tab is active, and the '2-D Column' chart type is selected. A tooltip for 'Stacked Column' is displayed, providing the following information:

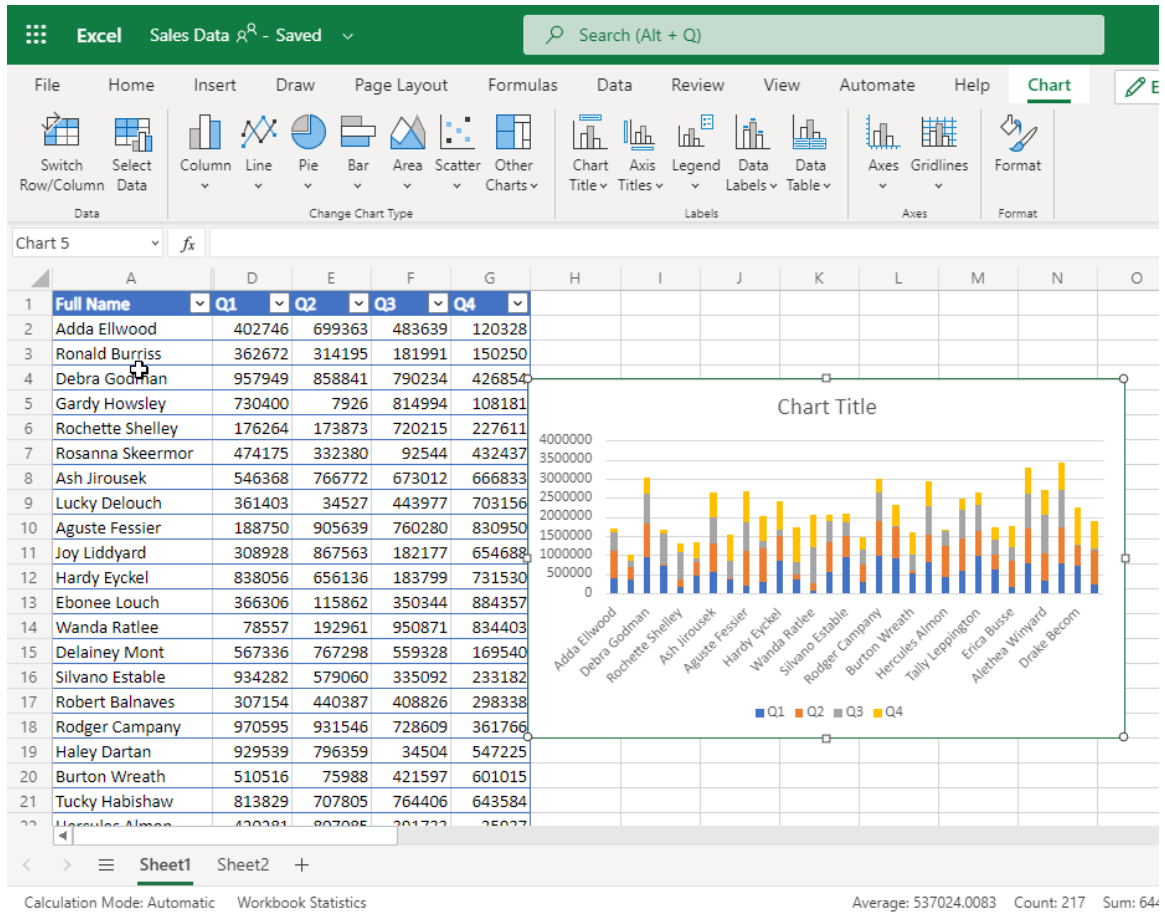
- Stacked Column**
- Compare the contribution of each value to a total across categories by using vertical rectangles.
- Use it to emphasize the total across series for one category.

The data table in the background is as follows:

Full Name	Q1	Q2	Q3	Q4
Adda Ellwood	402746	699363	483639	1203
Ronald Burriss	362672	314195	181991	1502
Debra Godman	957949	858841	790234	4268
Gardy Howsley	730400	7926	814994	1081
Rochette Shelley	176264	173873	720215	2276
Rosanna Skeermor	474175	332380	92544	4324
Ash Jirousek	546368	766772	673012	666833
Lucky Delouch	361403	34527	443977	703156
Aguste Fessier	188750	905639	760280	830950
Joy Liddyard	308928	867563	182177	654688
Hardy Eyckel	838056	656136	183799	731530
Ebonee Louch	366306	115862	350344	884357
Wanda Ratlee	78557	192961	950871	834403
Delainey Mont	567336	767298	559328	169540
Silvano Estable	934282	579060	335092	233182
Robert Balnaves	307154	440387	408826	298338
Rodger Campany	970595	931546	728609	361766
Haley Dartan	929539	796359	34504	547225
Burton Wreath	510516	75988	421597	601015
Tucky Habishaw	813829	707805	764406	643584
Harold Almon	420281	807085	201722	25027

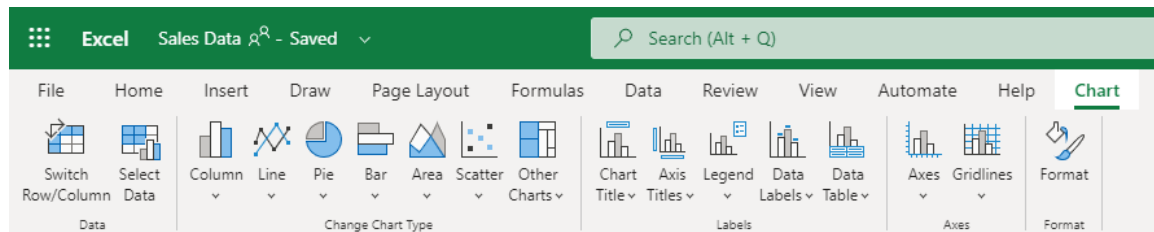
(Notice that we have hidden extraneous data, so it is not included in the chart.)

The chart will now be inserted:



The Chart Contextual Tab

When a chart is selected, the **Chart** contextual tab will become available on the ribbon:

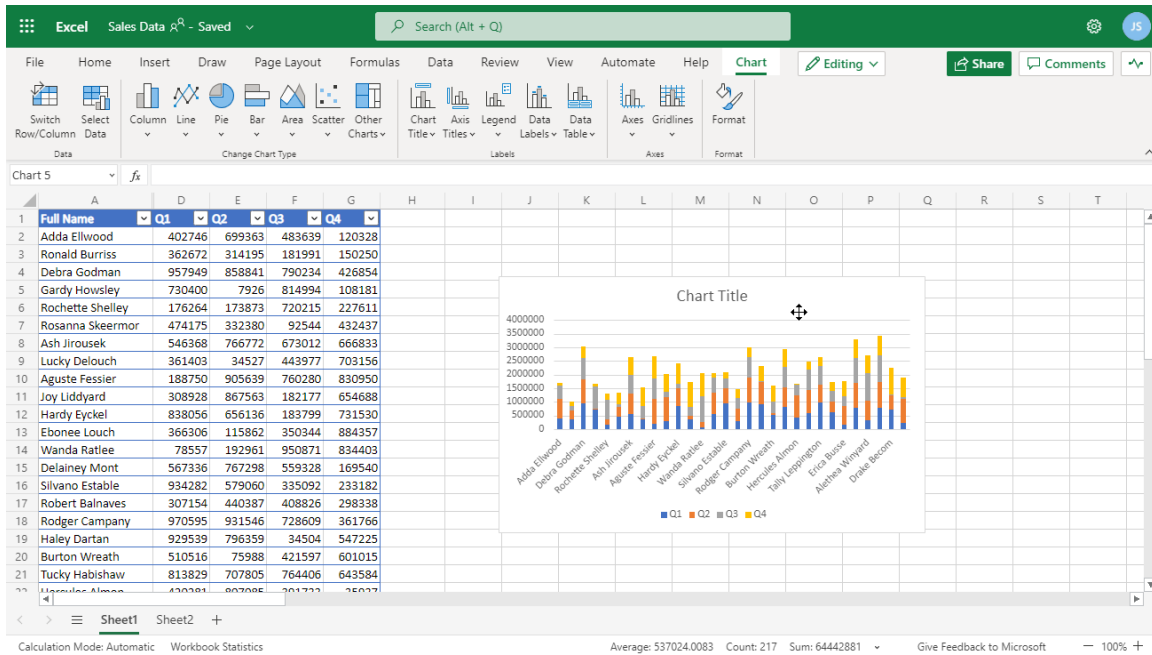


It includes four groups:

- **Data:** Modify the chart's data.
- **Change Chart Type:** Provides the same commands as the Charts group on the Insert tab.
- **Labels:** Change how data is presented in the chart.
- **Axes:** Customize chart axes and gridlines.

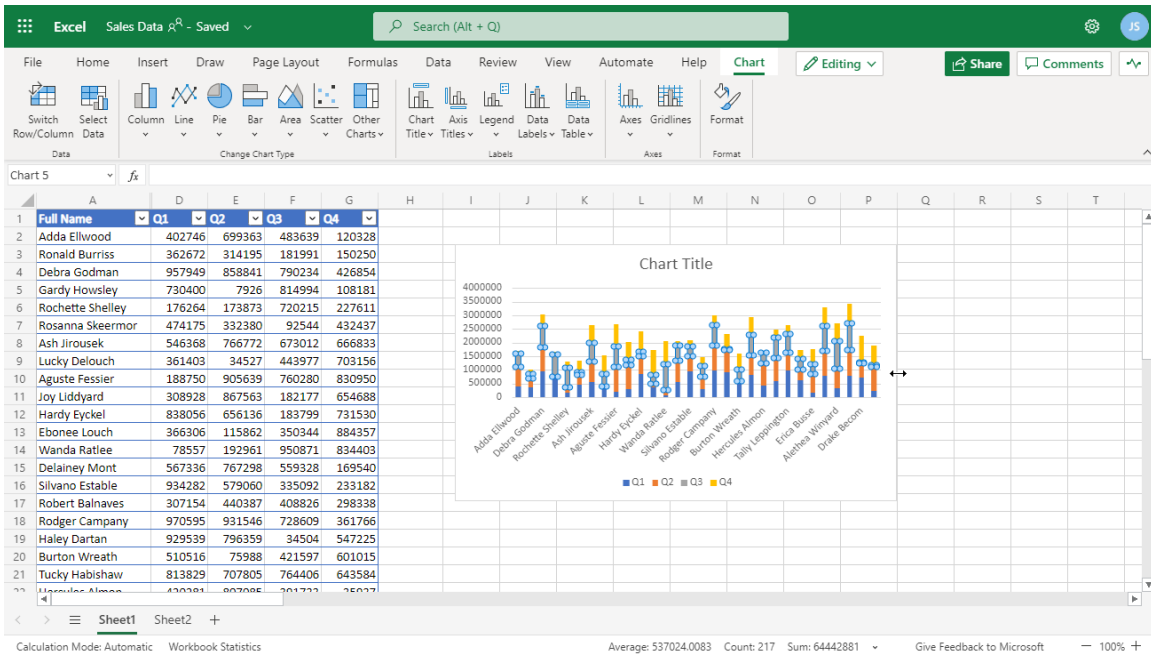
Moving Charts

To move a chart, click to select the chart in question and then drag it to its new destination. Release your mouse button to place it there:

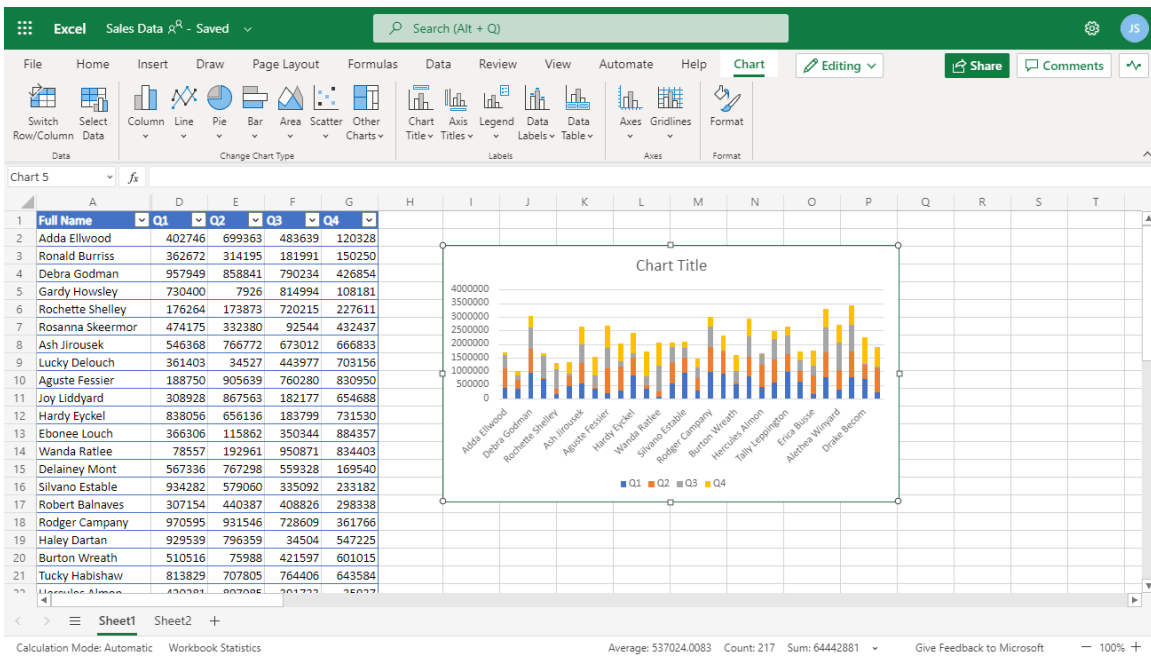


Resizing Charts

To resize a chart, click it to select it and then click and drag any of the handles:



Note that although the chart may appear skewed as you do this, it will update once you release your cursor:



Activity 5-2: Inserting Charts

In this activity, we will add a chart to our sales report.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 5-2 from OneDrive.
2. We do not need the **State** or **Office Type** details in the chart, so select these two columns by clicking and dragging over the column headers:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
	Total							\$2,725,620

3. Click **Home** → **Format** → **Hide & Unhide** → **Hide Columns**:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
	Total							\$2,725,620

- The columns will be hidden, and we are now ready to insert our chart. Select cells **A1 to H21**:

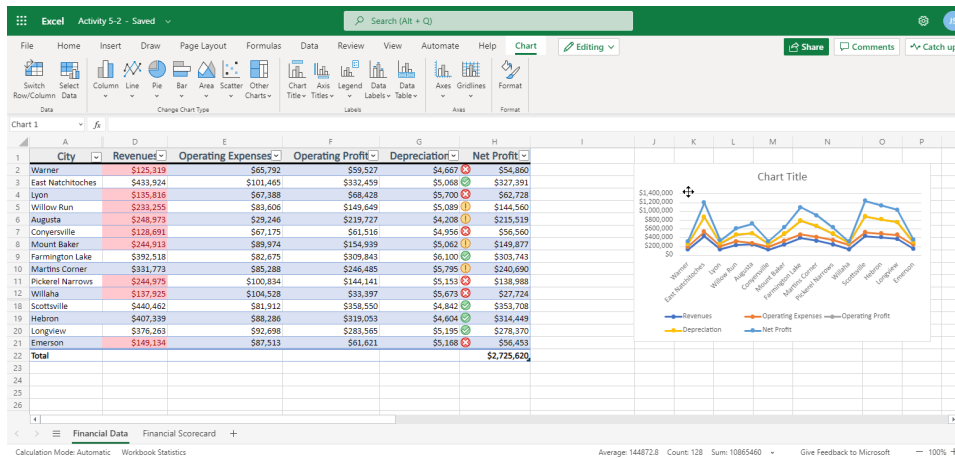
	A	D	E	F	G	H
1	City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickereel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total					\$2,725,620

(We do not want to include the total row in our chart.)

- Now, click **Insert** → **Line** → **Stacked Line with Markers**:

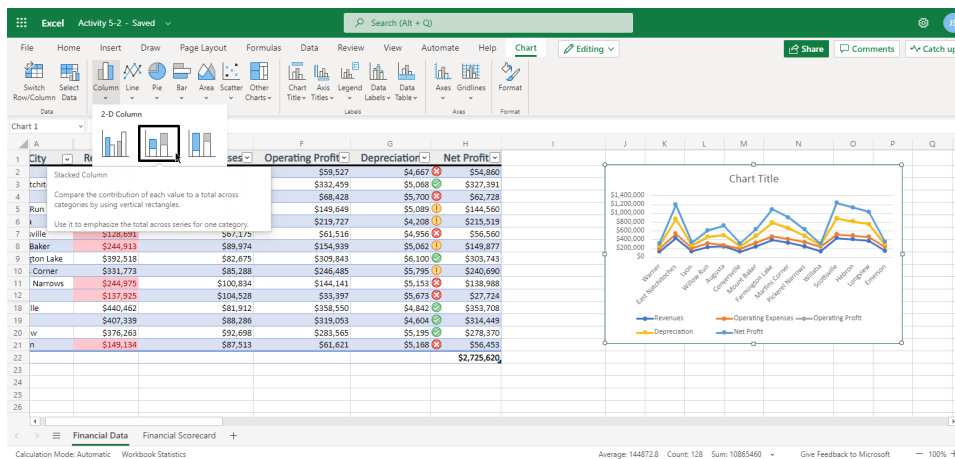
The screenshot shows the Excel ribbon with the 'Insert' tab selected. The 'Line' chart type is chosen, and the 'Stacked Line with Markers' option is highlighted in the dropdown menu. The background shows the same data table as in the previous screenshot, with the total row still visible.

- The chart will be inserted, but it may not be in a convenient location. Click it and drag it so the top left edge aligns with cell J2:

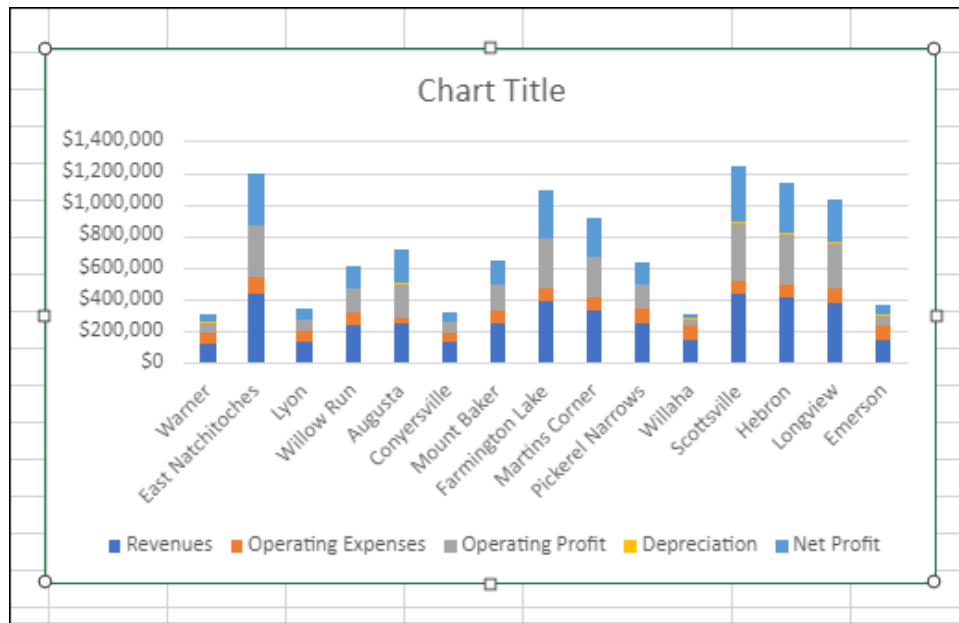


Make sure you scroll over to see the full chart.

- There might be a better way to display this data. Let's try changing the chart type. Click **Chart** → **Column** → **Stacked Column**:



8. Do you find the new chart easier to understand?



9. Close the Excel browser tab to complete this activity.

TOPIC C: Modifying Charts

In the last topic, we saw how charts can be quickly and easily added. However, you will often need to customize this default configuration to ensure data is displayed properly. In this topic, we will learn about some of those tasks.

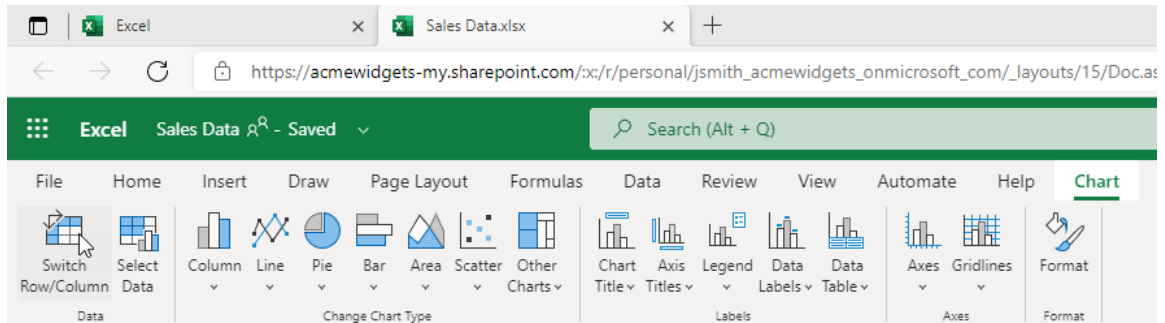
Topic Objectives

In this session, you will learn how to:

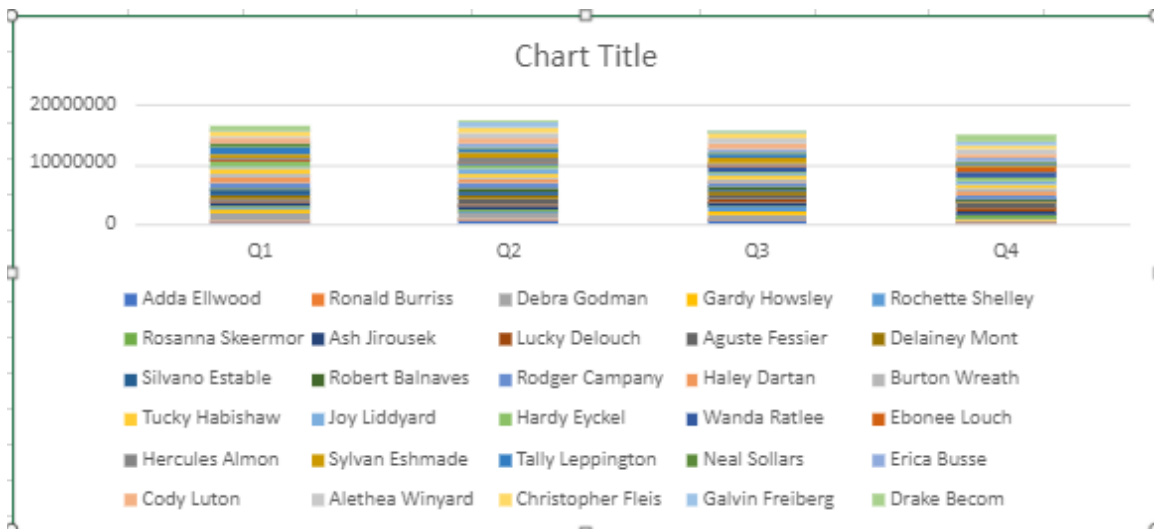
- Switch row and column display
- Select which data to display in the chart
- Change the chart type
- Add a title to a chart
- Modify chart labels and axes

Switching Row and Column Display

Occasionally, you may find the need to transpose rows and columns so that your chart represents the data differently. To do this, click **Chart** → **Switch Row/Column**:

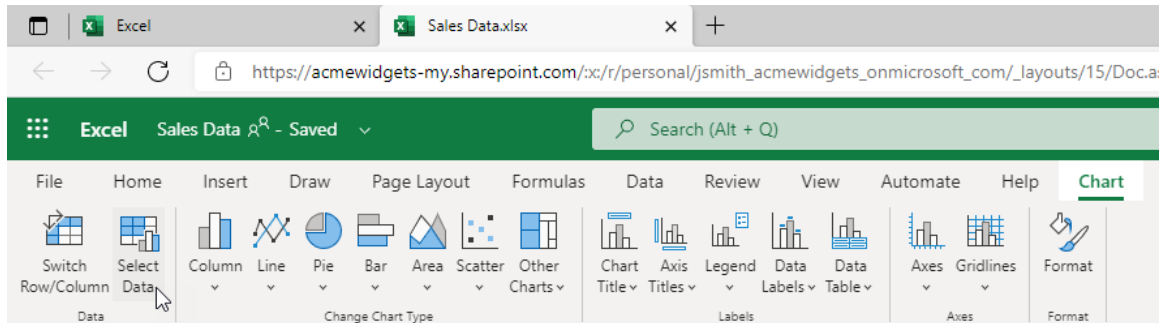


The chart will now be updated:

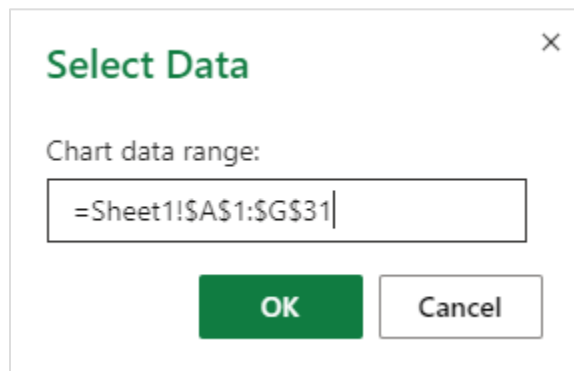


Use the Select Data Command

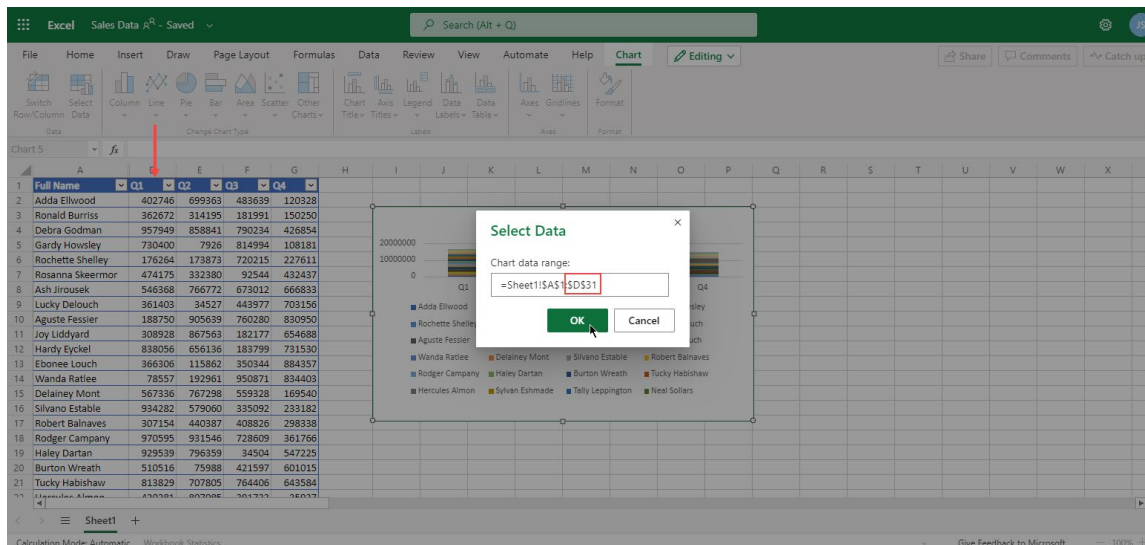
Once a chart has been created, you can add or remove information from the data range; the chart will immediately reflect those changes. To start, click **Chart** → **Select Data**:



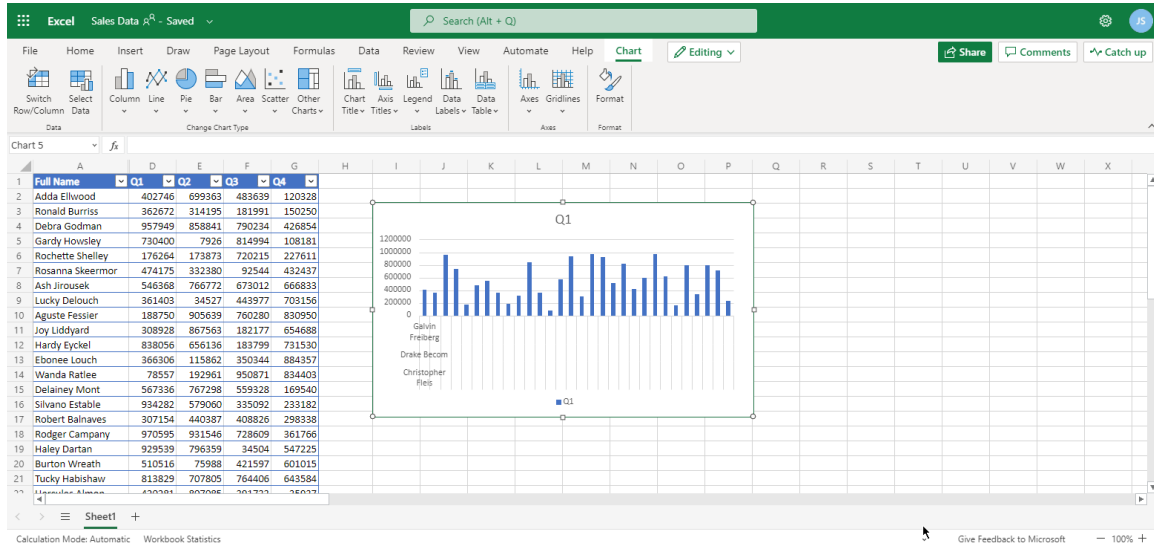
Now, the Select Data dialog box will open. Here, you can modify the data range:



In this example, we only want the first quarter in the chart, so we will change the end point of the range and click **OK**:

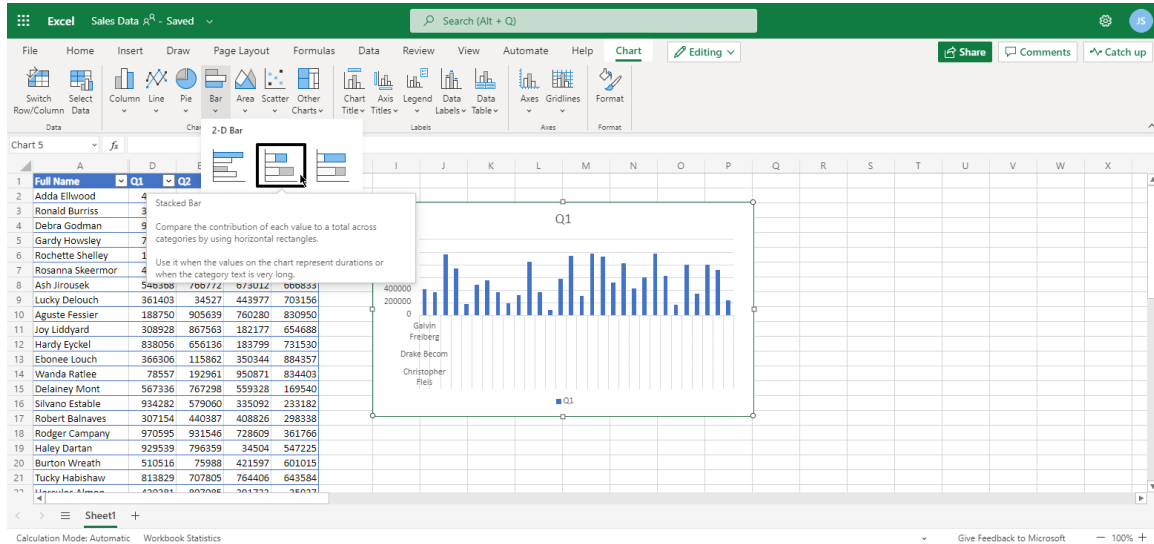


The chart will now be updated:

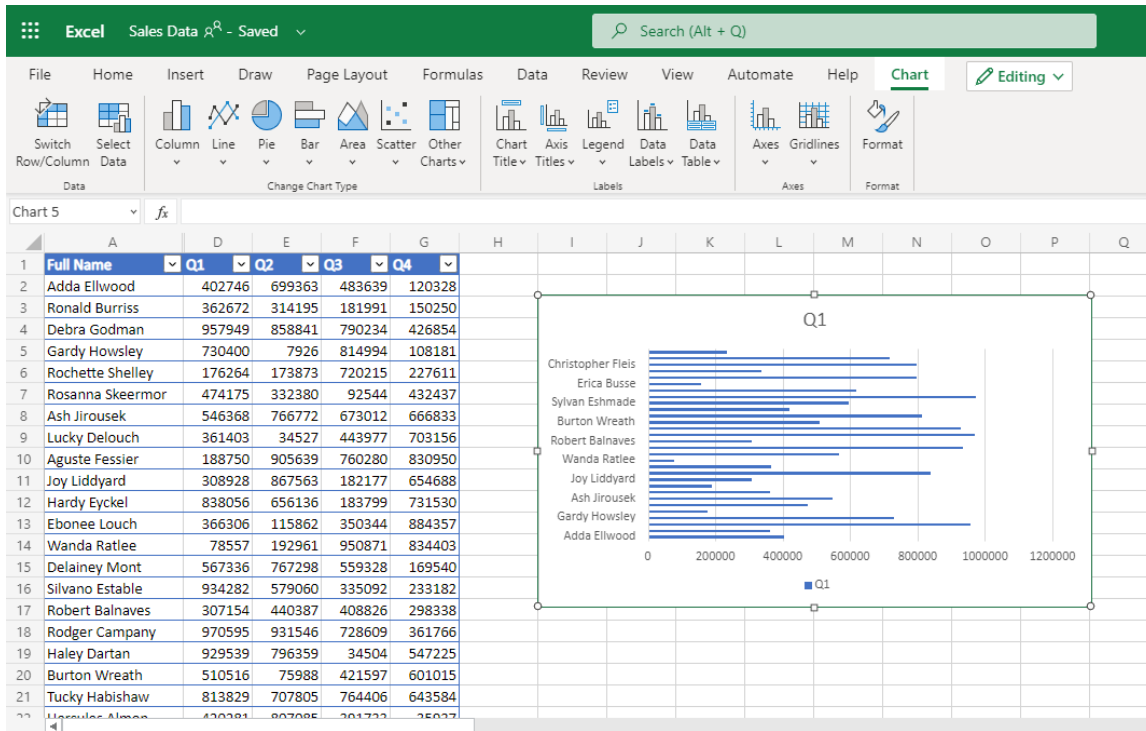


Changing the Chart Type

To change the type of chart, select the chart, click the **Chart** tab, choose the new category, and choose the specific chart type. Here, we are changing a column chart into a stacked bar chart:

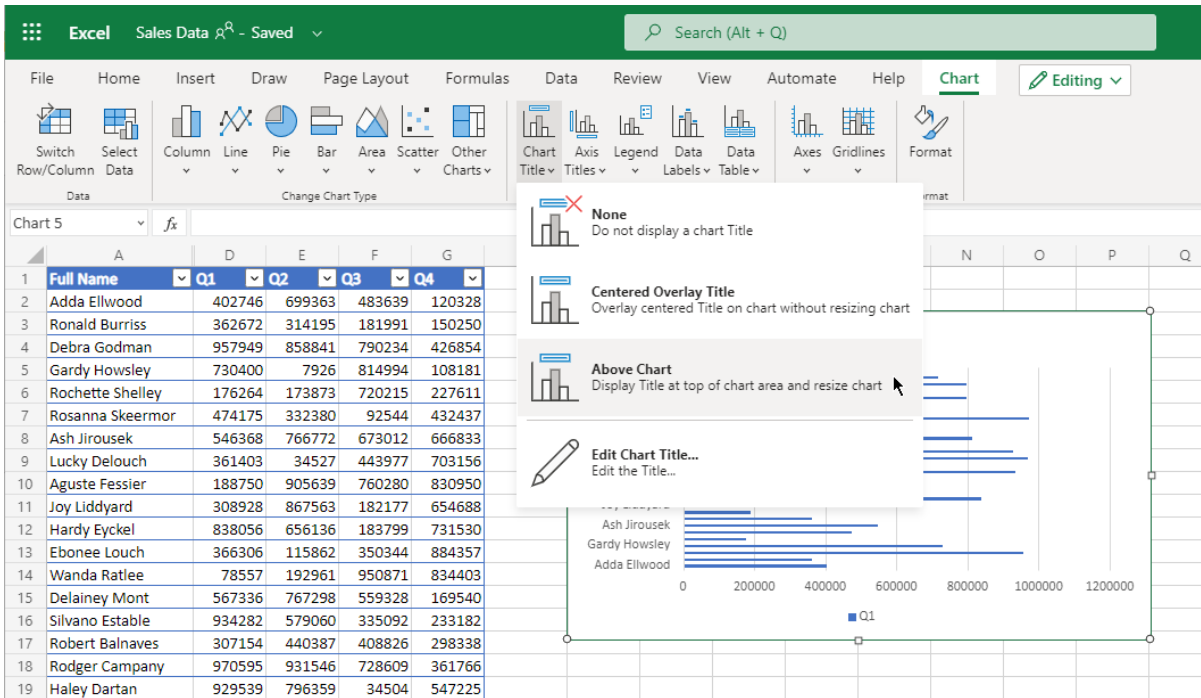


The results appear immediately after clicking this command:

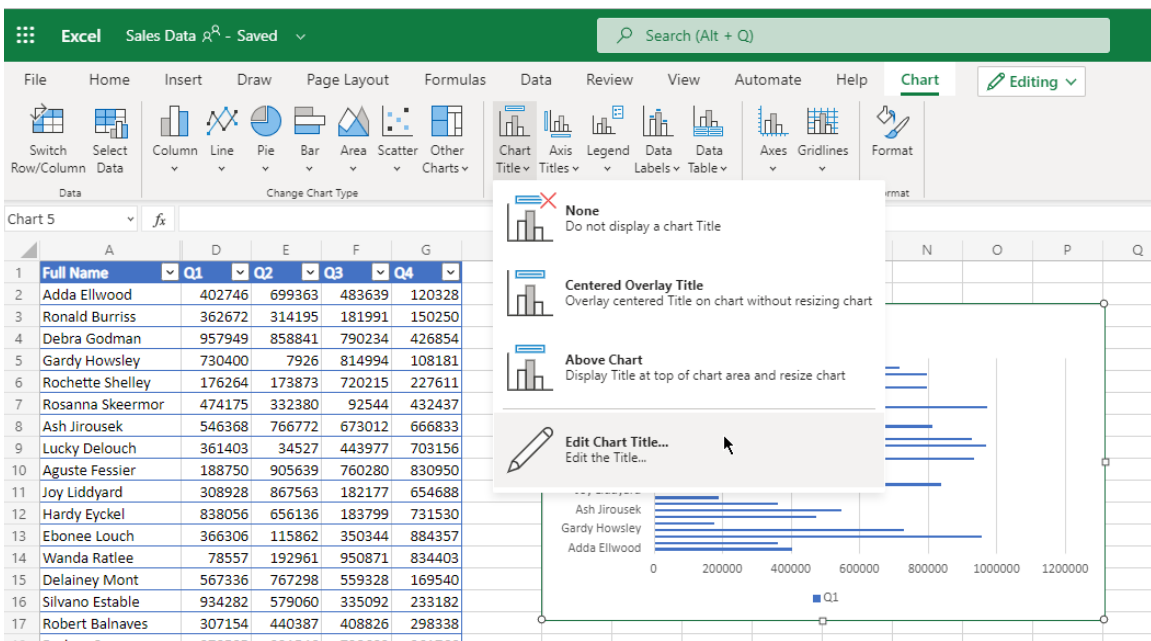


Adding a Chart Title

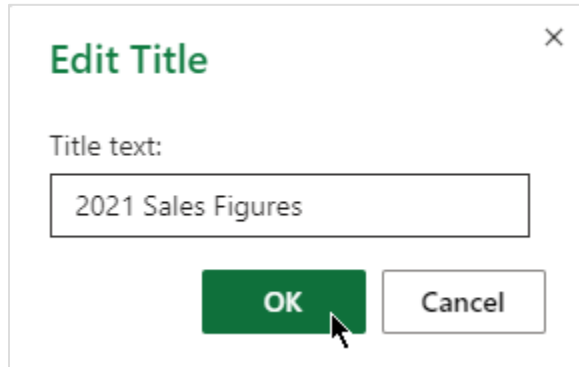
To add a title to a chart, click **Chart** → **Chart Title**, and choose the desired position:



Note that you can choose **None** to turn the chart title off. To change the title of the chart, click **Edit Chart Title**.



The **Edit Title** dialog box will appear. Enter your title and click **OK**:



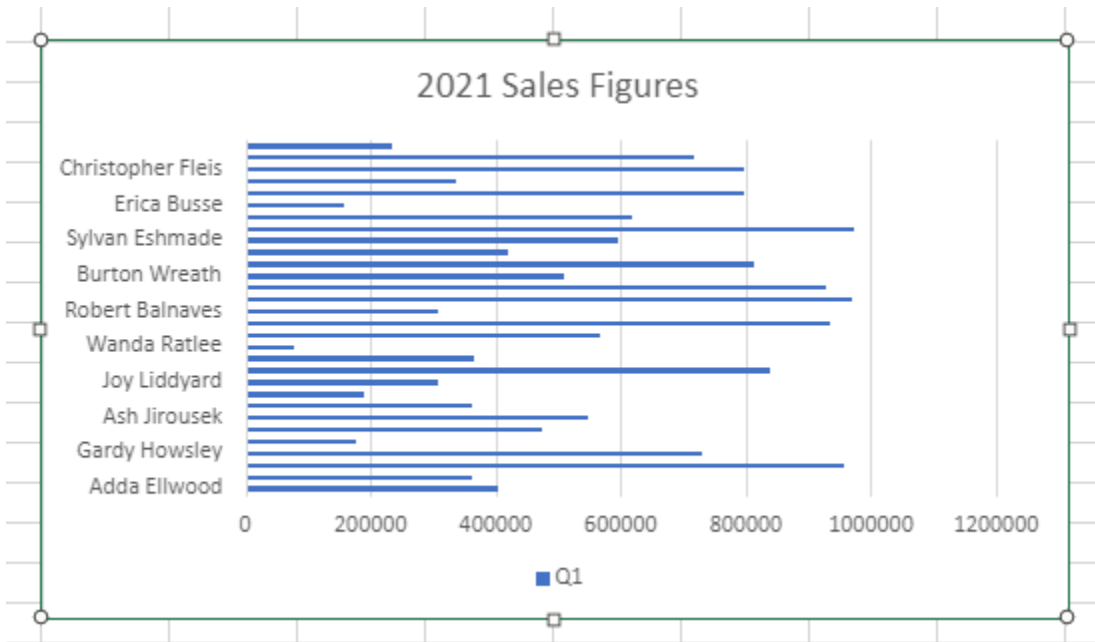
Edit Title ×

Title text:

2021 Sales Figures

OK Cancel

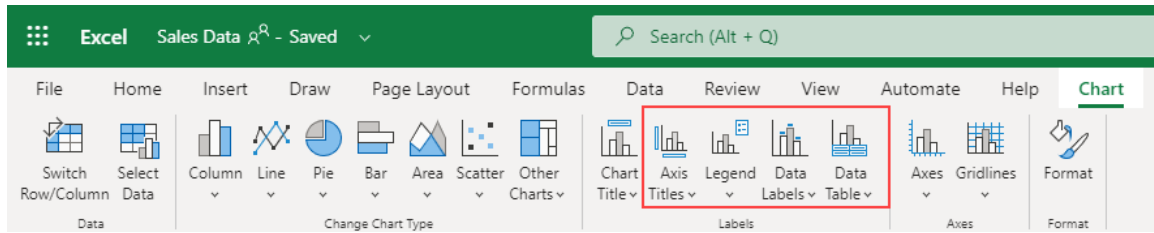
The title will now be added:



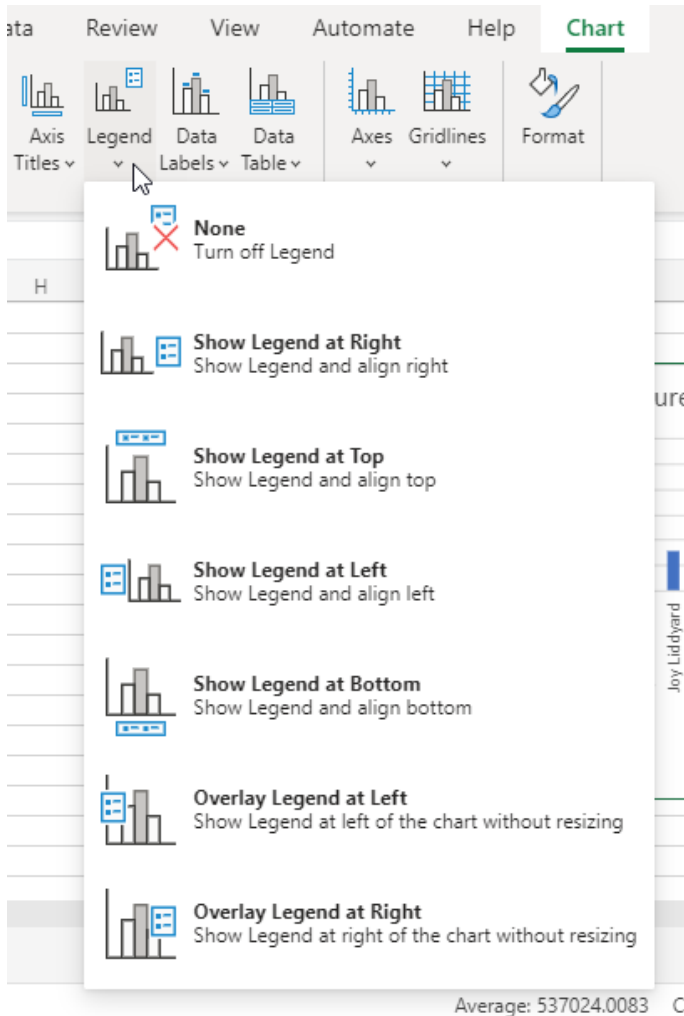
Remember, you can edit it by clicking **Chart** → **Chart Title** → **Edit Chart Title**.

Modifying Chart Labels

The next four commands in the **Labels** group allow you to turn different elements on or off and control their position:

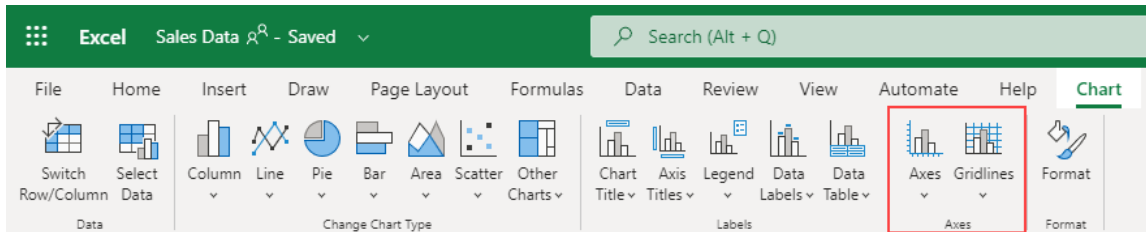


For example, here are the options for positioning the legend:

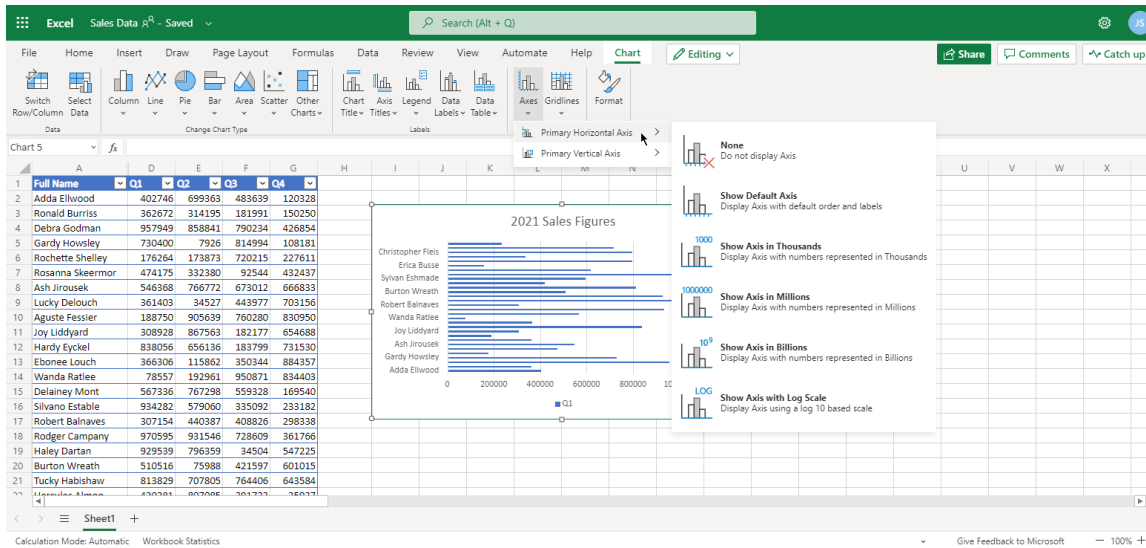


Modifying Chart Axes

The final group, **Axes**, contains two commands:



The **Axes** command allows you to customize the display of both the horizontal and vertical axes:



The **Gridlines** command allows you to customize the appearance of both types of gridlines:

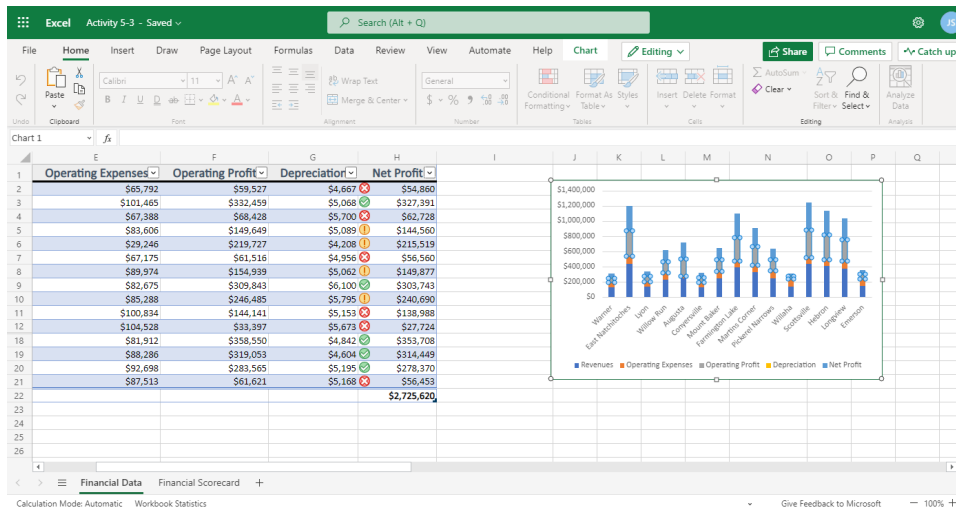
The screenshot displays the Microsoft Excel Online interface. At the top, the ribbon includes 'File', 'Home', 'Insert', 'Draw', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', 'Automate', 'Help', and 'Chart'. The 'Chart' tab is active, showing options for 'Switch Row/Column', 'Select Data', 'Column', 'Line', 'Pie', 'Bar', 'Area', 'Scatter', 'Other Charts', 'Chart Title', 'Axis Title', 'Legend', 'Data Labels', 'Table', 'Axes', 'Gridlines', and 'Format'. The 'Gridlines' menu is open, showing options for 'Primary Horizontal Gridlines', 'Major Gridlines', 'Minor Gridlines', and 'Major and Minor Gridlines'. The main area shows a data table with columns for 'Full Name', 'Q1', 'Q2', 'Q3', and 'Q4'. A bar chart titled '2021 Sales Figures' is displayed, showing sales data for various employees across four quarters. The chart uses a color-coded legend to represent different employees.

Full Name	Q1	Q2	Q3	Q4
Adda Ellwood	402746	699363	483639	120328
Ronald Burriss	362672	314195	181991	150250
Debra Godman	957949	858841	790234	426854
Gardy Howsley	730400	7926	814994	108181
Rochette Shelley	176264	173873	720215	227611
Rosanna Skeermor	474175	332380	92544	432437
Ash Jirousek	546368	766772	673012	666833
Lucky Delouch	361403	34527	443977	703156
Aguste Fessier	188750	905639	760280	830950
Joy Liddyard	308928	867563	182177	654688
Hardy Eyckel	838056	656136	183799	731530
Ebonee Louch	366306	115862	350344	884357
Wanda Ratlee	78557	192961	950871	834403
Delainey Mont	567336	767298	559328	169540
Silvano Estable	934282	579000	335092	233182
Robert Balnaves	307154	440387	408826	298338
Rodger Campany	970595	931546	728609	361766
Haley Dartan	929539	796359	34204	547225
Burton Wreath	510516	75988	421597	601015
Tucky Habishaw	813829	707805	764406	643584
Hercules Almon	430581	807066	304753	36033

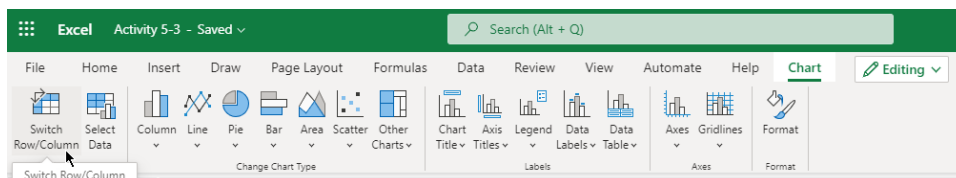
Activity 5-3: Modifying Charts

In this activity, we will modify the chart in our sales data report.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 5-3 from OneDrive.
2. Ensure the Financial Data worksheet is active, and the chart is selected:



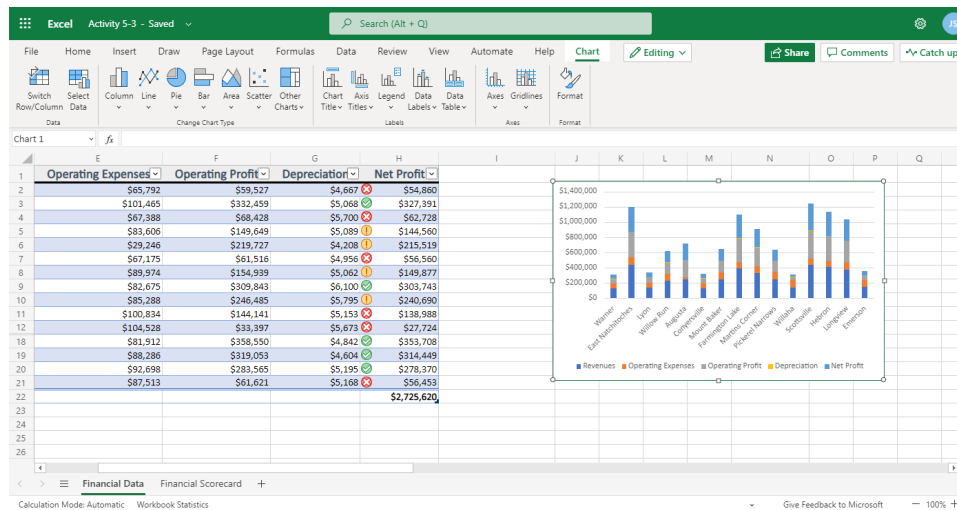
3. Let's try switching the row and column data. Click **Chart** → **Switch Row/Column**:



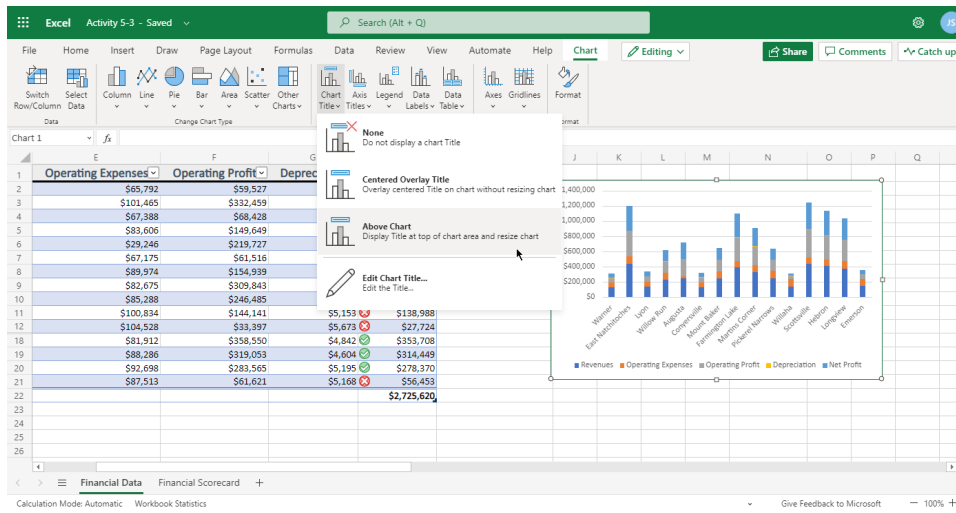
4. Now we can see an overall picture of each of the financial data points:



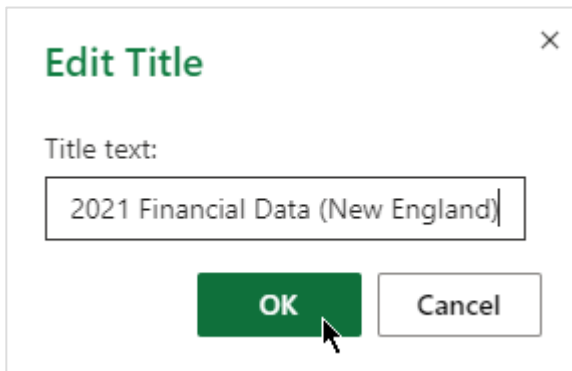
5. Click **Switch Row/Column** again to return to the previous configuration:



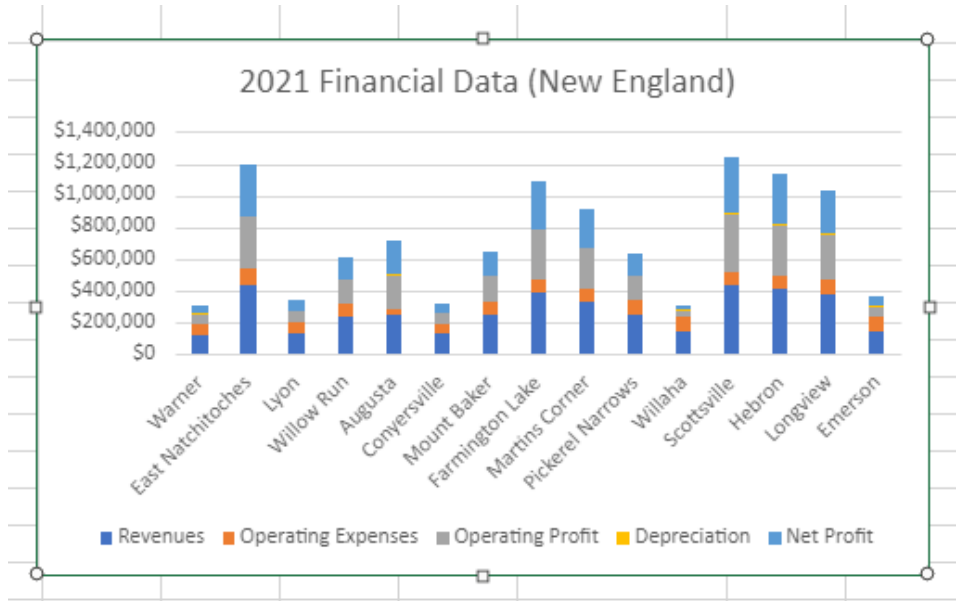
- Now let's add a title to the chart. The Chart tab should still be open. Click **Chart Title** → **Above Chart**:



- The Edit Table dialog box will open. Type **“2021 Financial Data (New England)”** and click **OK**:



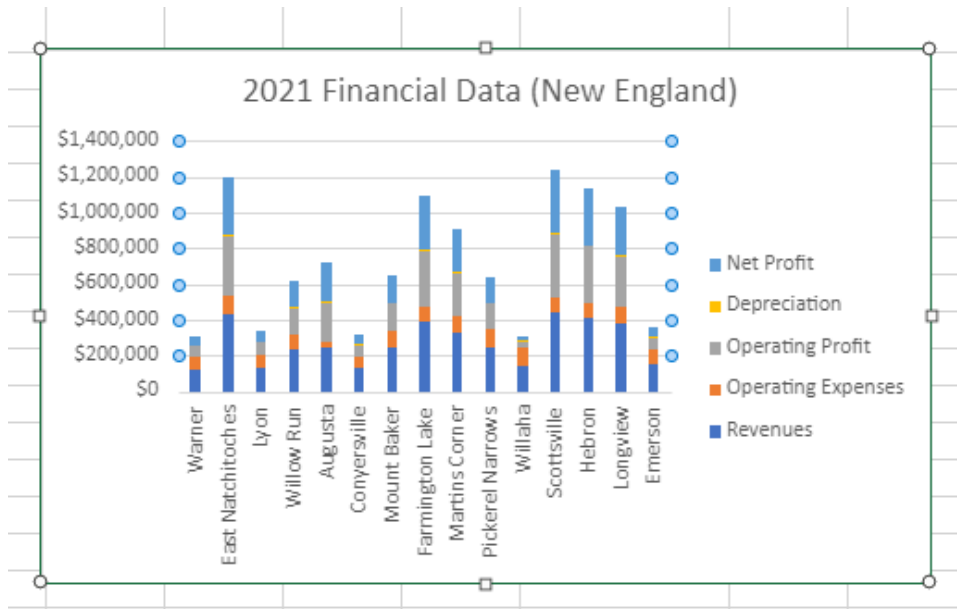
8. The title will be added:



9. Now, let's move the legend. Click **Legend** → **Show Legend at Right**:

The screenshot shows the Excel interface with the 'Chart' tab active. The 'Legend' dropdown menu is open, and 'Show Legend at Right' is selected. The background shows the same stacked bar chart as in step 8, but with the legend positioned to the right of the chart area.

10. Review the changes:



11. Close the Excel browser tab to complete this activity.

Summary

In this lesson, you learned how to organize worksheet data with tables and charts. With these tools, you will be able to take your workbooks a few steps further and learn more about your data than ever before.

Review Questions

1. **What is the command sequence to format data as a table?**
2. **What is a chart's vertical axis also known as?**
3. **How do you turn a table's total row on or off?**
4. **How do you move a chart?**
5. **How do you add a title to a chart?**

LESSON 6: USING PIVOTTABLES

Lesson Objectives

In this lesson you will learn how to:

- Insert PivotTables
- Work with PivotTable data
- Sort and filter PivotTable data

TOPIC A: Inserting PivotTables

An important function of any spreadsheet program is to help you derive meaning from your data. An Excel PivotTable is a great tool for doing this, as it can help you get different perspectives as you analyze the relationships between the columns and rows of your data. In this topic, you will learn what a PivotTable is and how to create one. You will also learn how to specify and rearrange PivotTable data.

Topic Objectives

In this session, you will learn:

- What a PivotTable is
- How to create and use a PivotTable
- About the PivotTable Fields task pane

What is a PivotTable?

A PivotTable is a powerful tool for exploring, summarizing, and analyzing information. A PivotTable helps you organize and manipulate the raw data in your spreadsheet to provide insight into patterns or relationships that might not be obvious at first glance. PivotTables also give you the power to summarize your data and view it in a different context, without changing the original content or structure of the data in the worksheet.

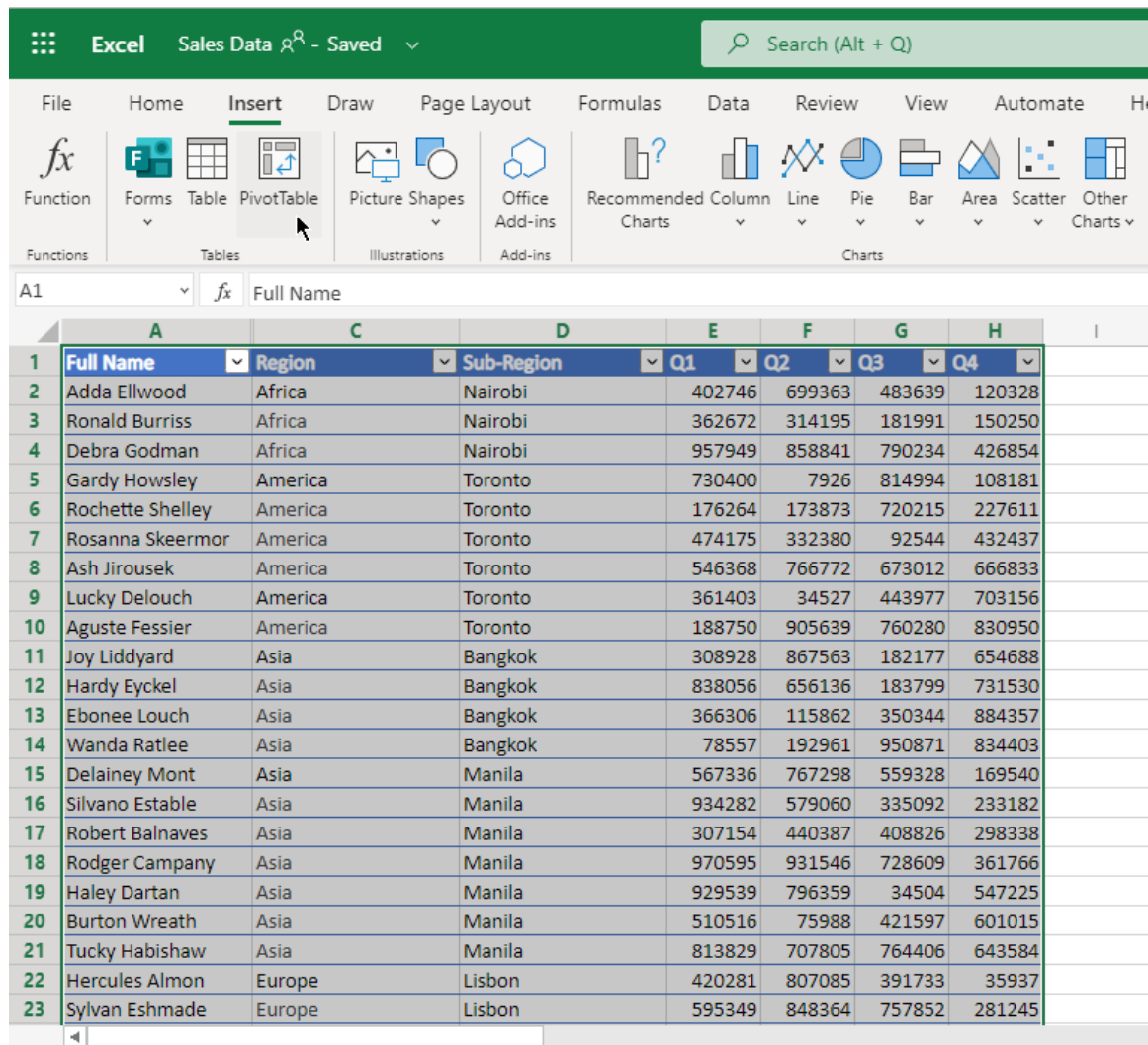
With a PivotTable, you can conveniently drag and drop columns of your data to different areas of the table to examine relationships or trends that may not be obvious in a traditional Excel table.

Rather than build several regular tables to explore how columns from an Excel worksheet relate to each other (or to see the data summarized in different ways), you can use one PivotTable to do the same thing. With a PivotTable, you can alter the table design without cutting, copying, pasting, or adjusting formulas and cell references. In short, PivotTables enable you to organize your data in meaningful ways, without doing a lot of tedious work. You could say that a PivotTable is like several data tables rolled into one.

Ideally, the source data for a PivotTable should be structured like a traditional Excel table or database. The source data should have unique column headings distinguishing the data, and there should be no empty columns or rows within the data.

Creating a PivotTable

To create a PivotTable, select the range of data on which you want to base the table, and then click **Insert** → **PivotTable**:



The screenshot shows the Microsoft Excel Online interface. The ribbon is set to the 'Insert' tab, and the 'PivotTable' icon is highlighted. Below the ribbon, the active cell is A1, containing the text 'Full Name'. The main area of the spreadsheet displays a table with the following data:

	A	C	D	E	F	G	H	I
1	Full Name	Region	Sub-Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	Africa	Nairobi	402746	699363	483639	120328	
3	Ronald Burriss	Africa	Nairobi	362672	314195	181991	150250	
4	Debra Godman	Africa	Nairobi	957949	858841	790234	426854	
5	Gardy Howsley	America	Toronto	730400	7926	814994	108181	
6	Rochette Shelley	America	Toronto	176264	173873	720215	227611	
7	Rosanna Skeermor	America	Toronto	474175	332380	92544	432437	
8	Ash Jirousek	America	Toronto	546368	766772	673012	666833	
9	Lucky Delouch	America	Toronto	361403	34527	443977	703156	
10	Aguste Fessier	America	Toronto	188750	905639	760280	830950	
11	Joy Liddyard	Asia	Bangkok	308928	867563	182177	654688	
12	Hardy Eyckel	Asia	Bangkok	838056	656136	183799	731530	
13	Ebonee Louch	Asia	Bangkok	366306	115862	350344	884357	
14	Wanda Ratlee	Asia	Bangkok	78557	192961	950871	834403	
15	Delainey Mont	Asia	Manila	567336	767298	559328	169540	
16	Silvano Estable	Asia	Manila	934282	579060	335092	233182	
17	Robert Balnaves	Asia	Manila	307154	440387	408826	298338	
18	Rodger Campany	Asia	Manila	970595	931546	728609	361766	
19	Haley Dartan	Asia	Manila	929539	796359	34504	547225	
20	Burton Wreath	Asia	Manila	510516	75988	421597	601015	
21	Tucky Habishaw	Asia	Manila	813829	707805	764406	643584	
22	Hercules Almon	Europe	Lisbon	420281	807085	391733	35937	
23	Sylvan Eshmade	Europe	Lisbon	595349	848364	757852	281245	

The **Insert PivotTable** menu will open. Using the **Source** field, you can select the range of data to be included in the PivotTable. In this example, the source is the table we already selected:

The screenshot shows the Microsoft Excel Online interface. The 'Insert' tab is active, and the 'PivotTable' option is selected. The 'Insert PivotTable' dialog box is open, showing the 'Source' field set to 'Table1'. Below the dialog, a preview of the PivotTable is shown, titled 'Q1' and 'Q2' by 'Full Name'. The PivotTable has 'Row Labels' and two columns: 'Sum of Q1' and 'Sum of Q2'. The data in the PivotTable is as follows:

Row Labels	Sum of Q1	Sum of Q2
Tally Leppington	971781	647637
Rodger Company	970595	931546
Debra Godman	957949	858841
Silvano Estable	934282	579060
Haley Dartan	929539	796359
Hardy Eyclel	838056	656136
Tucky Habishaw	813829	707805

Under the **PivotTables** heading, you will see a list of different PivotTables you can add. PivotTables can be created in a new sheet, or can be added to an existing sheet. To create a new, blank PivotTable, click an option under the **Create your own PivotTable** heading:

Insert PivotTable

Source: Table1

PivotTables [Learn more](#)

Create your own PivotTable

Insert on: + New sheet + Existing sheet

'Q1' and 'Q2' by 'Full Name'

Row Labels	Sum of Q1	Sum of Q2
Tally Leppington	971781	647637
Rodger Company	970595	931546
Debra Godman	957949	858841
Silvano Estable	934282	579060
Haley Dartan	929539	796359
Hardy Eyckel	838056	656136
Turky Habichaw	813820	707805

Below this first option, you will also see some PivotTables that have been automatically generated based on different sets of data from your table. To use one of these pre-made tables, click an option under the desired table:

Insert PivotTable ×

Insert on: [+ New sheet](#) [+ Existing sheet](#)

'Q1' and 'Q2' by 'Full Name'

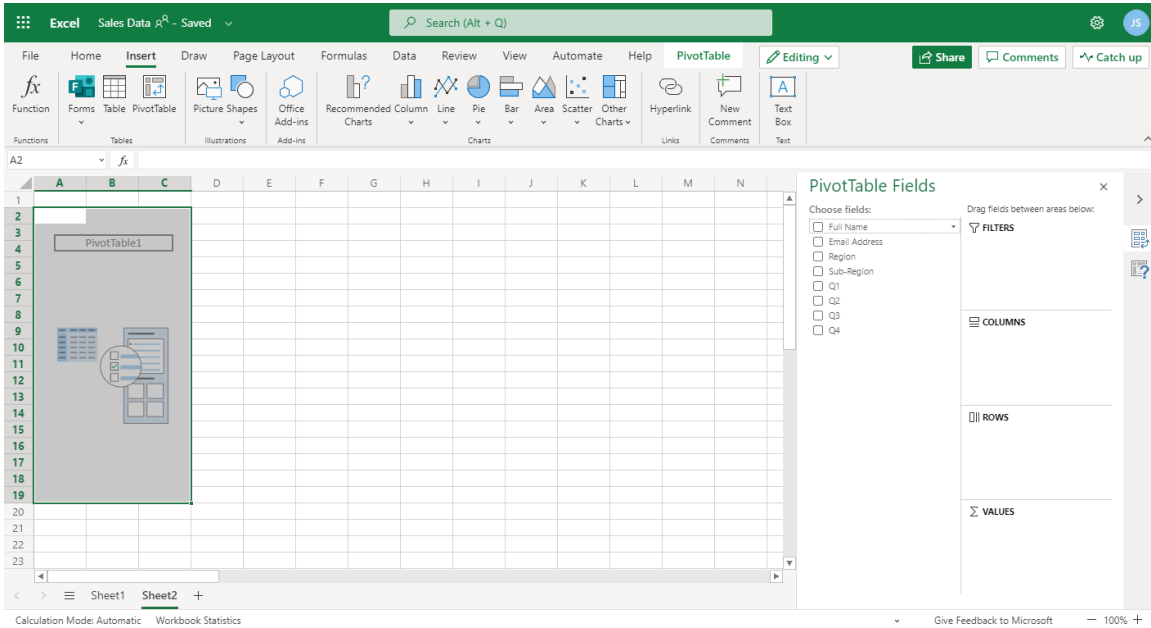
Row Labels	Sum of Q1	Sum of Q2
Tally Leppington	971781	647637
Rodger Company	970595	931546
Debra Godman	957949	858841
Silvano Estable	934282	579060
Haley Dartan	929539	796359
Hardy Eyckel	838056	656136
Tucky Habishaw	813829	707805
...

Insert on: [+ New sheet](#) [+ Existing sheet](#)

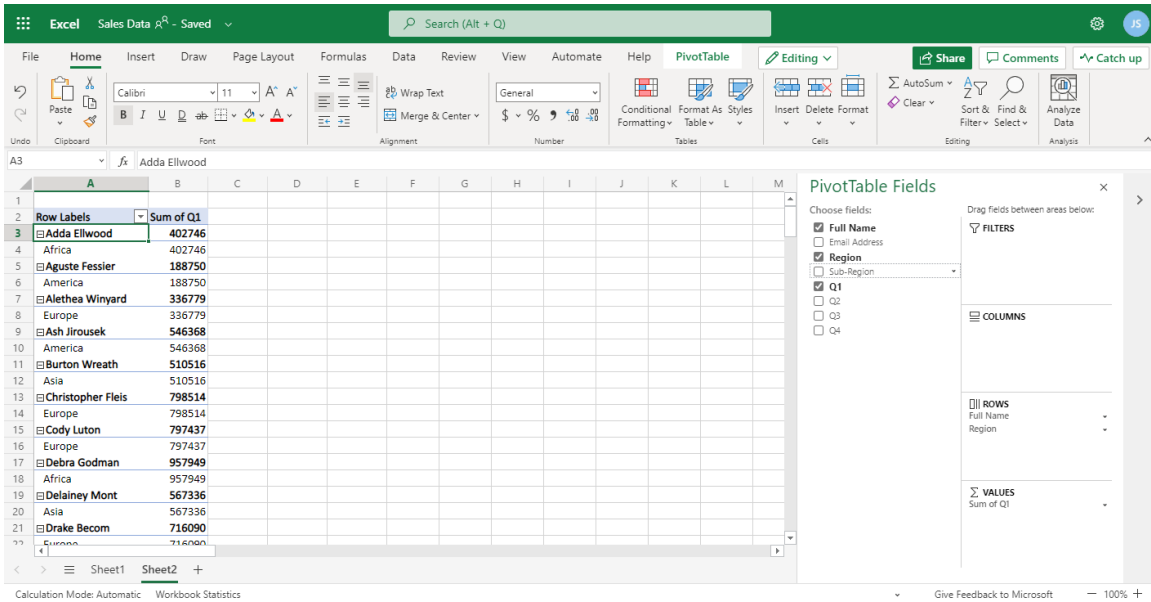
'Q1' and 'Q2' by 'Email Address'

Row Labels	Sum of Q1	Sum of Q2
t.leppington@acmewidg...	971781	647637
r.company@acmewidgets...	970595	931546
d.godman@acmewidgets...	957949	858841
s.estable@acmewidgets.c...	934282	579060

Here, we have added a new PivotTable to a new sheet:

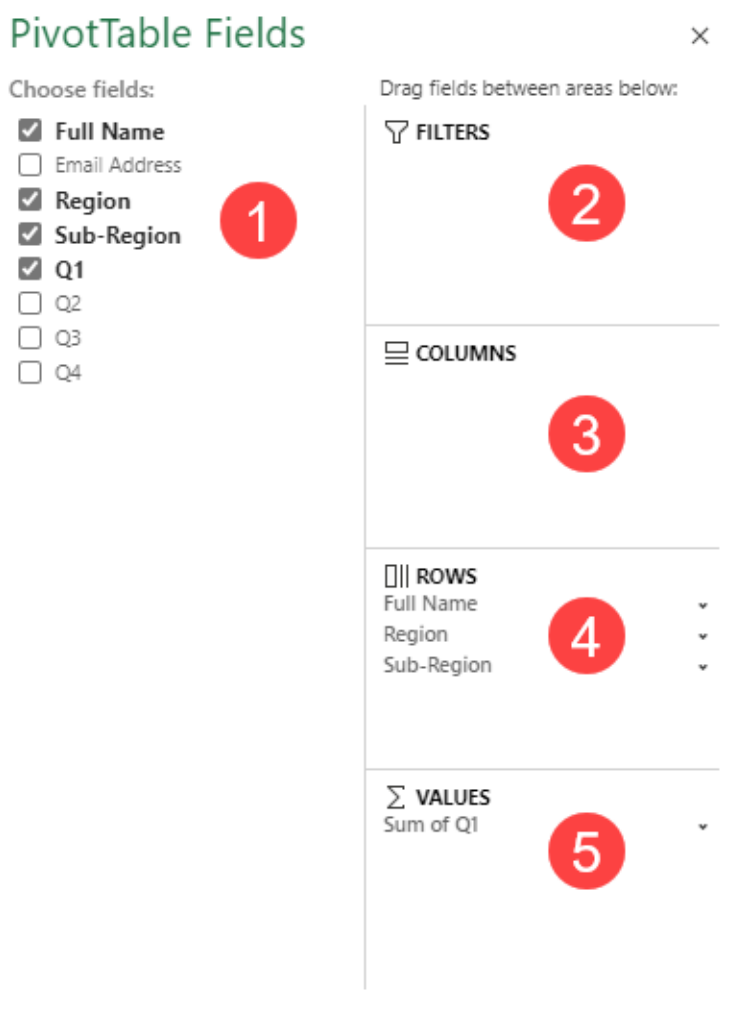


Now, we can add information to it by placing checks in the boxes next to the fields in the PivotTable Fields pane. As you do this, the PivotTable itself will be populated with the corresponding data:



The PivotTable Fields Task Pane

When you insert a PivotTable into your workbook, the PivotTable Fields task pane will automatically be displayed on the right side of the Excel window:



Let's review each area.

1. The left portion of this pane lists all of the fields from the dataset. To add or remove a field from the PivotTable, toggle the corresponding checkbox. Alternatively, to give you more control over field placement on the PivotTable, you can click and drag these fields to the PivotTable itself.
2. Dragging fields to the **Filters** area will include those field values as filter criteria.
3. The **Columns** area will create columns out of unique field entries.
4. Similarly, the **Rows** area will create rows out of unique field entries.

- Finally, fields that are dragged to the **Values** area will have calculations performed on them or their values summarized.

All fields in areas 2-5 will include a pull-down arrow that contains commands to move the field to another area of the task pane (or remove it entirely).

Remember that any changes you make in the PivotTable Field List pane will be applied dynamically. Additionally, due to the flexible nature of PivotTables, you can add or remove fields to or from this task pane at any time.

Working with PivotTable Data

As mentioned previously, the easiest way to add data to the PivotTable is to place checkmarks next to the desired fields in the **PivotTable Fields** task pane. You can just as easily remove the fields from the table by clearing the checkmarks.

The order in which you click to place your checkmarks is very important, as this will also be the order of placement for the fields in the PivotTable. In this example, the Rows section contains the Full Name field followed by the Region field:

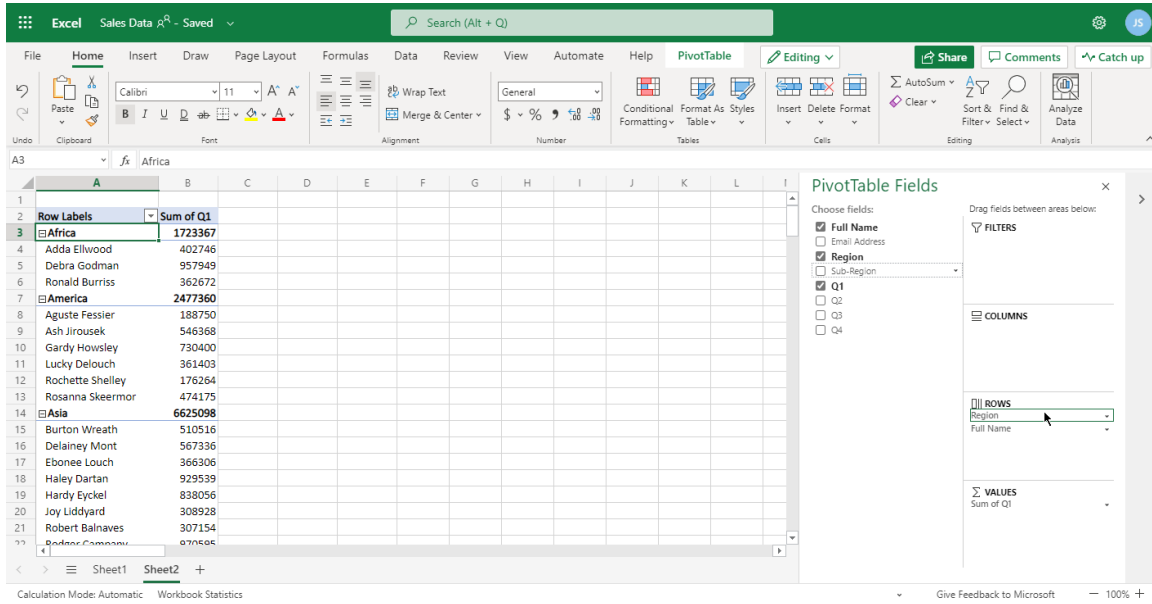
The screenshot displays the Microsoft Excel Online interface. The main window shows a PivotTable with the following data:

Row Labels	Sum of Q1
Adda Ellwood	402746
Africa	402746
Aguste Fessler	188750
America	188750
Alethea Winyard	336779
Europe	336779
Ash Jirousek	546368
America	546368
Burton Wreath	510516
Asia	510516
Christopher Fleis	798514
Europe	798514
Cody Luton	797437
Europe	797437
Debra Godman	957949
Africa	957949
Delainey Mont	567336
Asia	567336
Drake Becom	716090
Europe	716090

The PivotTable Fields task pane on the right is configured as follows:

- Choose fields:**
 - Full Name
 - Email Address
 - Region
 - Sub-Region
 - Q1
 - Q2
 - Q3
 - Q4
- Drag fields between areas below:**
 - FILTERS:** (Empty)
 - COLUMNS:** (Empty)
 - ROWS:**
 - Full Name
 - Region
 - VALUES:**
 - Sum of Q1

Watch what happens when we drag the Region field above the Full Name field:



You can see that the names are now organized by region.

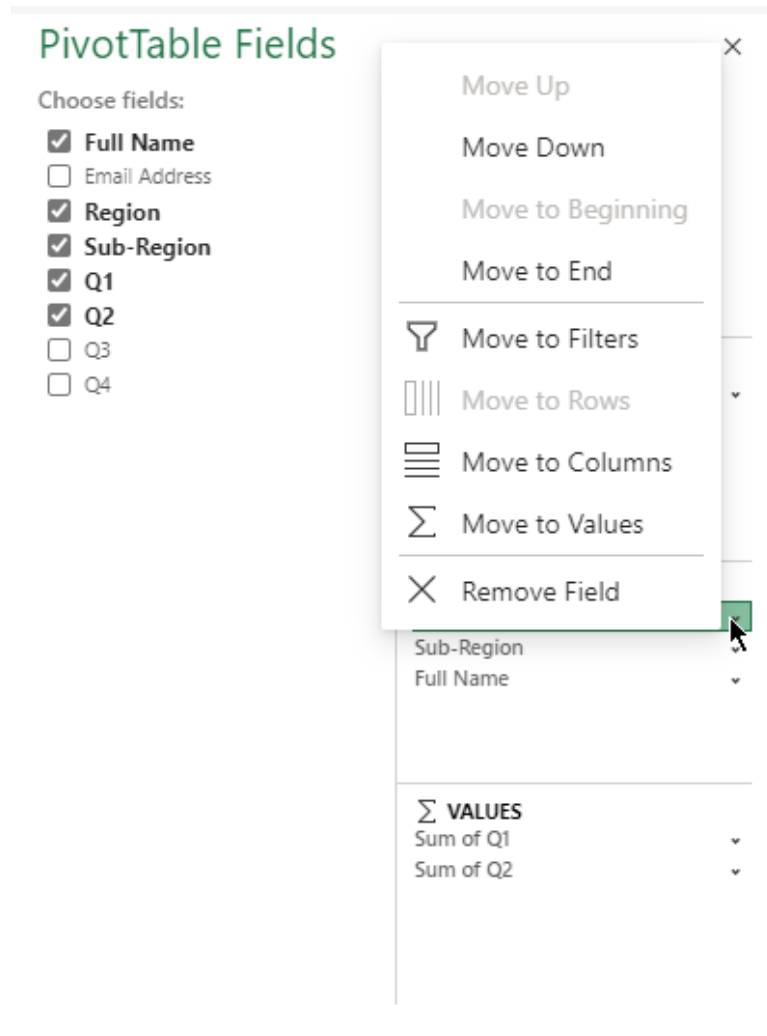
Watch what happens when we add the Sub-Region field below the Region field:

The screenshot shows the Excel Online interface with a PivotTable. The PivotTable Fields task pane on the right shows the 'Sub-Region' field moved from the FILTERS area to the ROWS area, below the 'Region' field. The main grid shows the resulting data with sub-totals for each region.

Row Labels	Sum of Q1
Africa	1723367
Nairobi	1723367
Adda Ellwood	402746
Debra Godman	957949
Ronald Burriss	362672
America	2477360
Toronto	2477360
Aguste Fessler	188750
Ash Jirousek	546368
Gardy Howsley	730400
Lucky Delouch	361403
Rochette Shelley	176264
Rosanna Skeermor	474175
Asia	6625098
Bangkok	1591847
Ebomee Louch	366306
Hardy Eyckel	838056
Joy Liddyard	308928
Wanda Ratlee	78557

You can see that this has created yet another level of organization.

As a final note, you can access **Move** commands from each field's drop-down menu. Note that there is also an option here to remove the field from the PivotTable entirely:



The screenshot displays the 'PivotTable Fields' task pane on the left, titled 'PivotTable Fields'. Under 'Choose fields:', the following fields are listed with their selection status:

- Full Name
- Email Address
- Region
- Sub-Region
- Q1
- Q2
- Q3
- Q4

A context menu is open over the 'Full Name' field in the PivotTable. The menu options are:

- Move Up
- Move Down
- Move to Beginning
- Move to End
- Move to Filters (with funnel icon)
- Move to Rows (with vertical bars icon)
- Move to Columns (with horizontal bars icon)
- Move to Values (with summation symbol icon)
- Remove Field (with 'X' icon)

The PivotTable structure is visible below the menu:

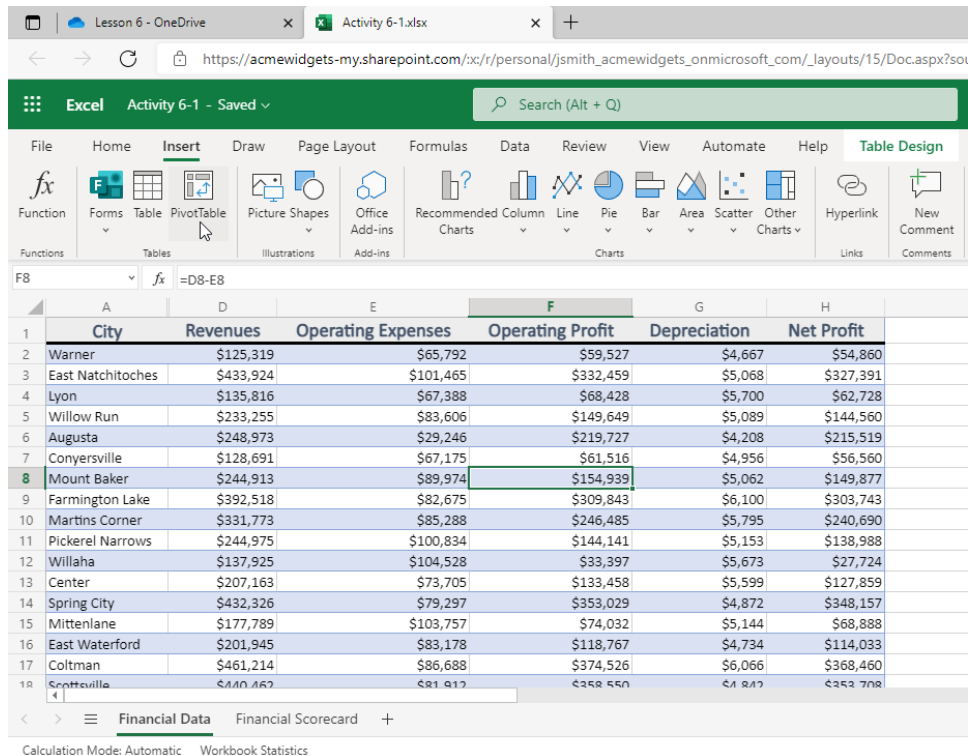
Sub-Region
Full Name

Σ VALUES
Sum of Q1
Sum of Q2

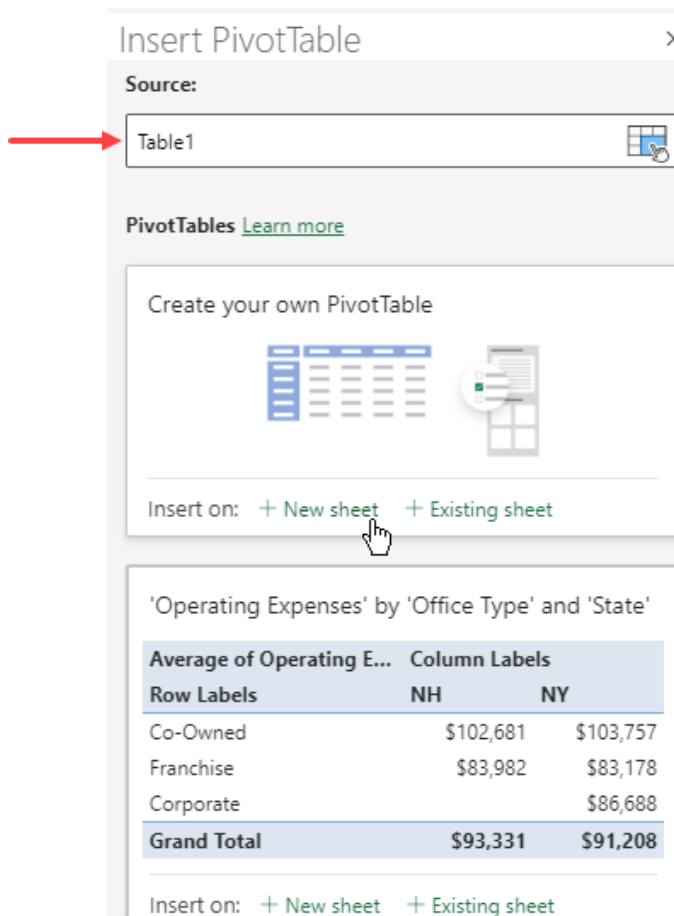
Activity 6-1: Inserting PivotTables

In this activity, you will create a PivotTable and experiment with its data.

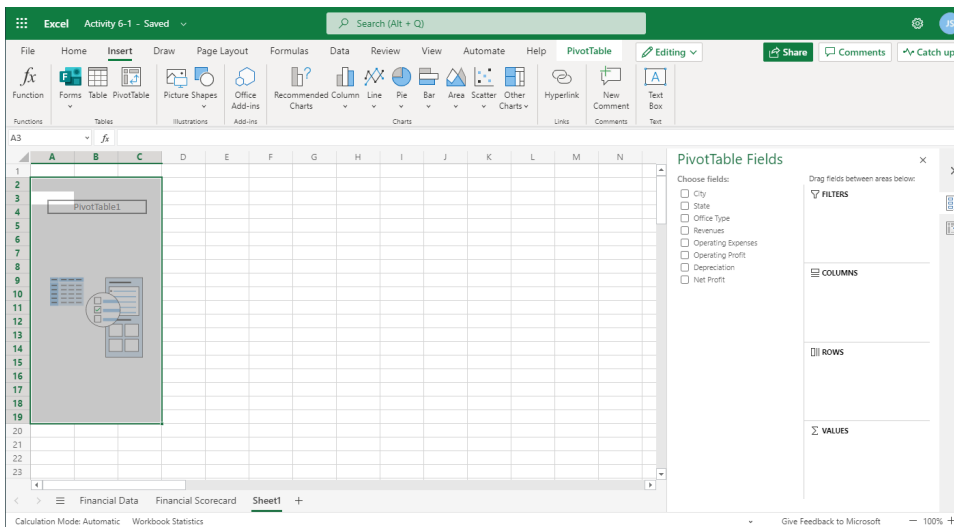
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 6-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. The Financial Data worksheet should be active. Click on a cell in the table, and then click **Insert** → **PivotTable**:



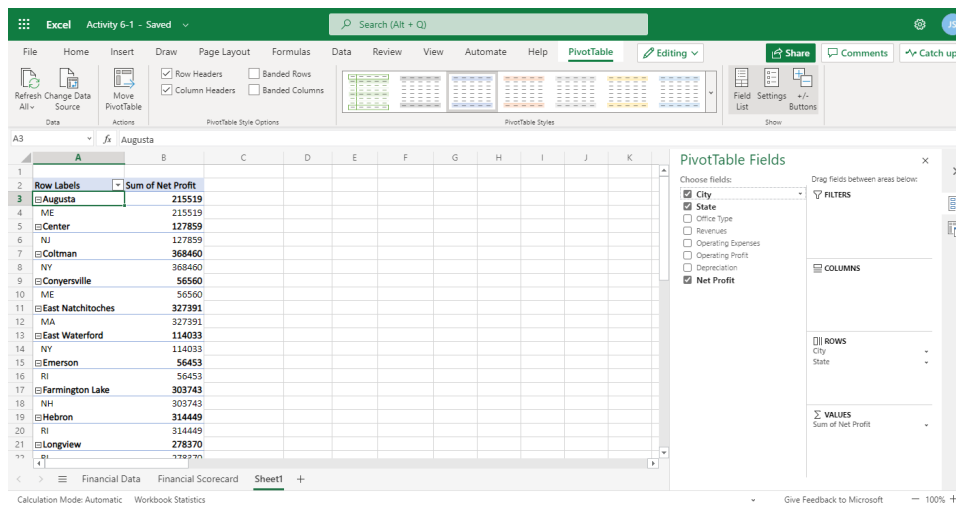
- The **Insert PivotTable** menu will open. The **Source** field should say "Table1". Click **New Sheet** under the **Create your own PivotTable** heading:



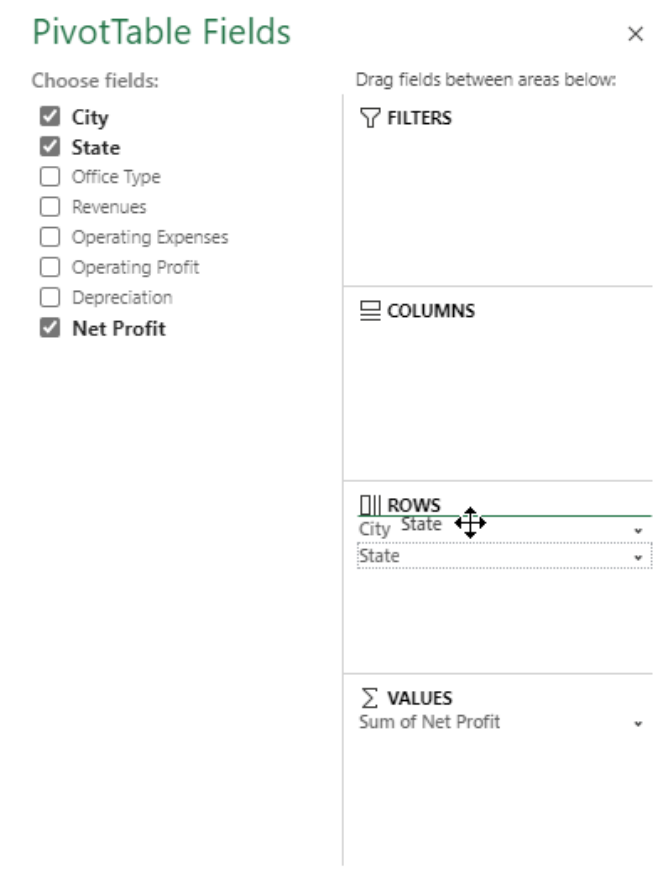
- A new worksheet will be created with the PivotTable:



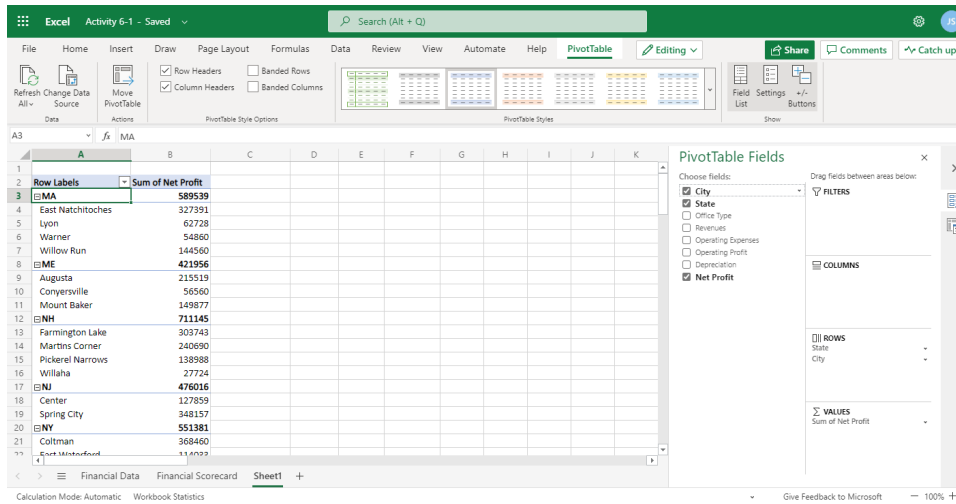
- In the PivotTable Fields pane, check the City, State, and Net Profit fields. Observe the results:



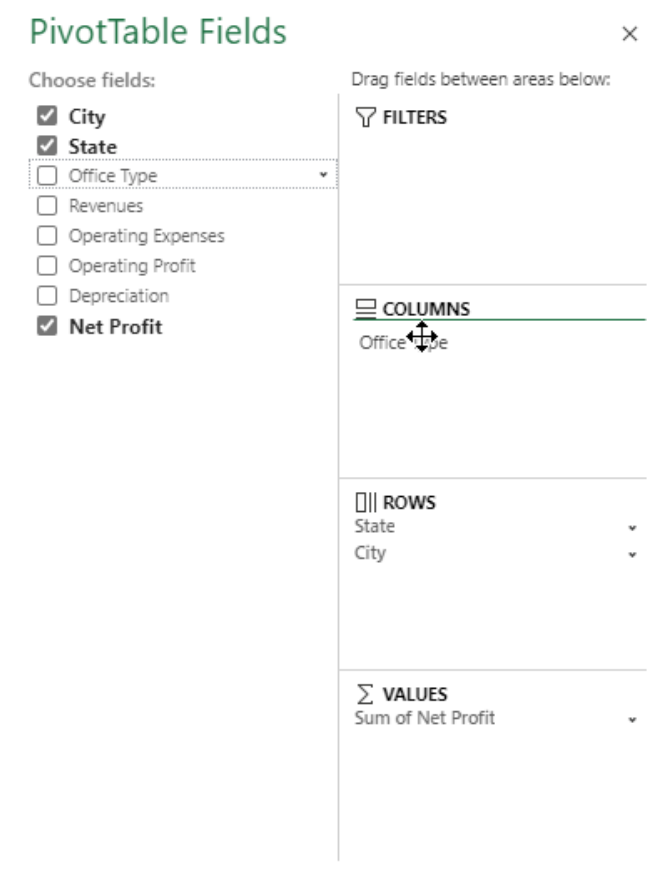
- In the **Rows** area, drag the State field above the City field:



7. Review the results:



8. Let's see the summarized values broken down a bit further. Drag the Office Type field to the Columns area:



9. Review the results:

The screenshot displays the Microsoft Excel Online interface. The main area shows a PivotTable with the following data:

Row Labels	Co-Owned	Corporate	Franchise	Grand Total
MA	62728	199420	327391	589539
East Natchitoches			327391	327391
Lyon	62728			62728
Warner		54860		54860
Willow Run		144560		144560
ME		365396	56560	421956
Augusta		215519		215519
Conyersville		56560		56560
Mount Baker		149877		149877
NH	166712	544433		711145
Farmington Lake		303743		303743
Martins Corner		240690		240690
Pickarel Narrows	138988			138988
Willaha	27724			27724
NJ	348157	127859		476016
Center		127859		127859
Spring City	348157			348157
NY	68888	368460	114033	551381
Totals	269145	269145	269145	269145

The PivotTable Fields task pane on the right shows the following configuration:

- Choose fields:** City, State, Office Type, Revenues, Operating Expenses, Operating Profit, Depreciation, Net Profit.
- FILTERS:** (Empty)
- COLUMNS:** Office Type
- ROWS:** State, City
- VALUES:** Sum of Net Profit

10. Close the Excel browser tab to complete this activity.

TOPIC B: Working with PivotTable Data

Now that you know how to create a PivotTable and pivot data, it is time to learn about some of the other options that Excel provides for manipulating this data. In this lesson, you will learn about expanding and collapsing data, refreshing the data source, renaming fields, summarizing values, and changing value display.

Topic Objectives

In this session, you will learn how to:

- Expand and collapse data
- Refresh data
- Rename fields
- Summarize values
- Change value display

Expanding and Collapsing Data

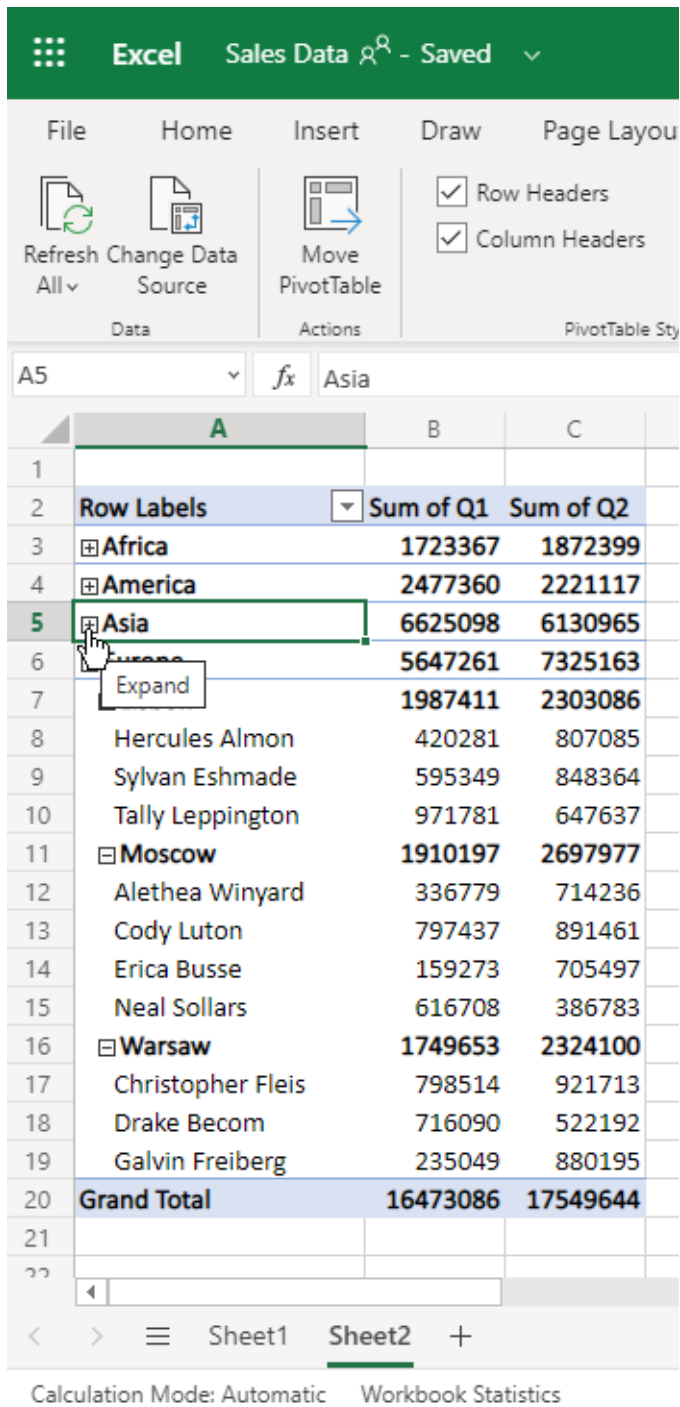
You can view more or less PivotTable data by expanding or collapsing it. A minus (-) sign means you can collapse the data down:

The screenshot shows the Excel Online interface for a workbook named 'Sales Data'. The ribbon includes 'File', 'Home', 'Insert', 'Draw', and 'Page Layout'. The 'PivotTable Tools' contextual ribbon is active, showing 'Data' (Refresh, Change Data Source), 'Actions' (Move PivotTable), and 'PivotTable Style' (Row Headers, Column Headers). The active cell is A4, containing the text 'America'. The PivotTable is displayed with the following data:

Row Labels	Sum of Q1	Sum of Q2
[-] Africa	1723367	1872399
[-] America	2477360	2221117
[-] Asia	6625098	6130965
Loonee Couch	366306	115862
Hardy Eyckel	838056	656136
Joy Liddyard	308928	867563
Wanda Ratlee	78557	192961
[-] Manila	5033251	4298443
Burton Wreath	510516	75988
Delainey Mont	567336	767298
Haley Dartan	929539	796359
Robert Balnaves	307154	440387
Rodger Campany	970595	931546
Silvano Estable	934282	579060
Tucky Habishaw	813829	707805
[-] Europe	5647261	7325163
[-] Lisbon	1987411	2303086
Hercules Almon	420281	807085
Sylvan Echmade	585249	819261

A tooltip labeled 'Collapse' is visible over the minus sign next to the 'Asia' row label. The bottom of the interface shows 'Calculation Mode: Automatic' and 'Workbook Statistics'.

While a plus (+) sign means you can expand it:



The screenshot shows the Excel Online interface with a PivotTable. The PivotTable is set to show Row Labels, Sum of Q1, and Sum of Q2. The data is organized into a hierarchy where 'Asia' is currently expanded, showing its sub-regions: Moscow, Warsaw, and Grand Total. A mouse cursor is hovering over the plus sign next to 'Asia', and a tooltip labeled 'Expand' is visible.

Row Labels	Sum of Q1	Sum of Q2
Africa	1723367	1872399
America	2477360	2221117
Asia	6625098	6130965
Hercules Almon	420281	807085
Sylvan Eshmade	595349	848364
Tally Leppington	971781	647637
Moscow	1910197	2697977
Alethea Winyard	336779	714236
Cody Luton	797437	891461
Erica Busse	159273	705497
Neal Sollars	616708	386783
Warsaw	1749653	2324100
Christopher Fleis	798514	921713
Drake Becom	716090	522192
Galvin Freiberg	235049	880195
Grand Total	16473086	17549644

In the first picture, we can see the two sub-regions of Asia and all the details. In the second picture, this data has been collapsed, so we can just see the top level of the data: Asia.

Remember that these levels are defined by the fields' positions in the **Rows** section of the PivotTable Fields task pane:

The screenshot displays the Microsoft Excel Online interface. The main workspace shows a PivotTable with the following data:

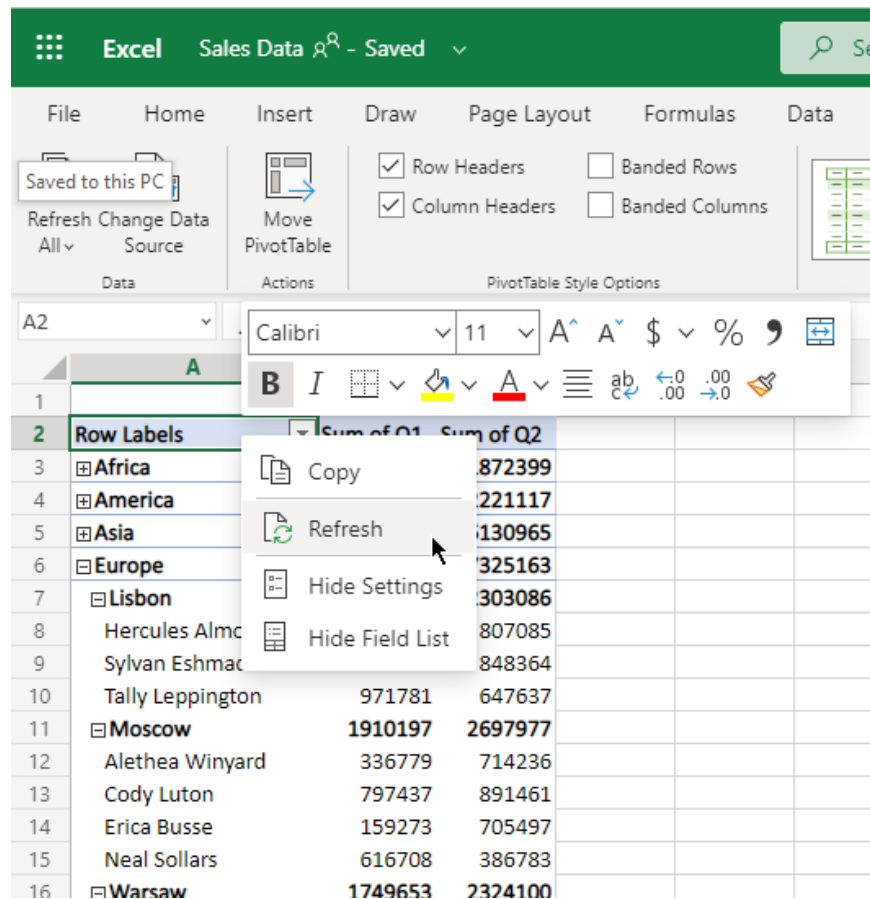
Row Labels	Sum of Q1	Sum of Q2
Africa	1723367	1872399
America	2477360	2221117
Asia	6625098	6130965
Europe	5647261	7325163
Lisbon	1987411	2303086
Hercules Almon	420281	807085
Sylvan Eshmade	595349	848364
Tally Leppington	971781	647637
Moscow	1910197	2697977
Alethea Winyard	336779	714236
Cody Luton	797437	891461
Erica Busse	159273	705497
Neal Sollars	616708	386783
Warsaw	1749653	2324100
Christopher Fleis	798514	921713
Drake Becom	716090	522192
Galvin Freiberg	335049	880195
Grand Total	16473086	17549644

The PivotTable Fields task pane on the right is configured as follows:

- Choose fields:** Full Name, Region, Sub-Region, Q1, Q2, Q3, Q4.
- FILTERS:** (Empty)
- ROWS:** Region, Sub-Region, Full Name.
- COLUMNS:** Values.
- VALUES:** Sum of Q1, Sum of Q2.

Refreshing Data

If your source data has changed, but the PivotTable is not reflecting those changes, you can trigger a refresh by right clicking the PivotTable and clicking **Refresh**:

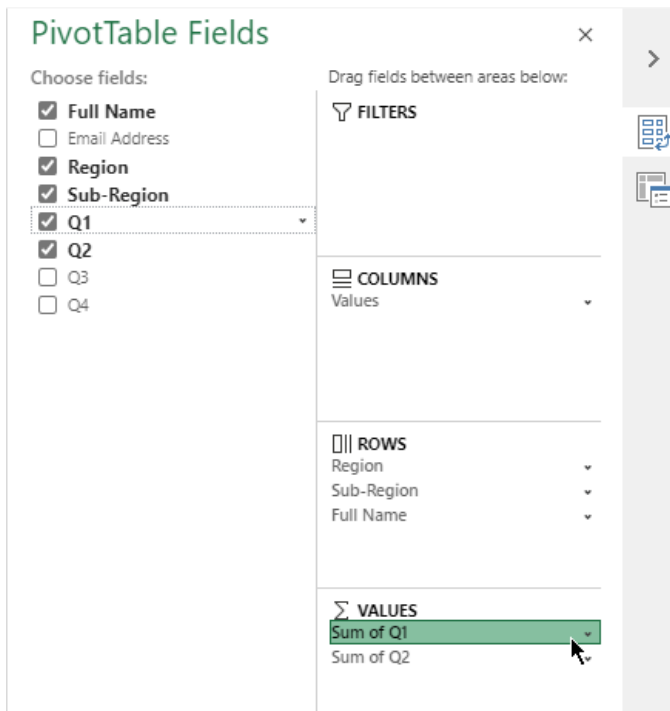


The screenshot shows the Microsoft Excel Online interface. The ribbon is set to the 'Data' tab. A PivotTable is displayed on the worksheet. A context menu is open over the PivotTable, with the 'Refresh' option highlighted. The PivotTable data is as follows:

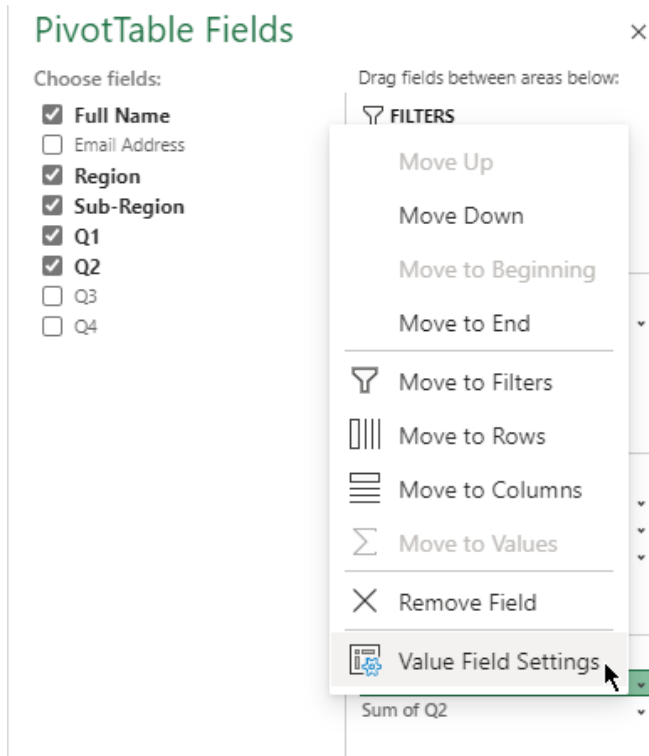
Row Labels	Sum of Q1	Sum of Q2
Africa		872399
America		221117
Asia		130965
Europe		325163
Lisbon		303086
Hercules Almc		807085
Sylvan Eshmac		848364
Tally Leppington	971781	647637
Moscow	1910197	2697977
Alethea Winyard	336779	714236
Cody Luton	797437	891461
Erica Busse	159273	705497
Neal Sollars	616708	386783
Warsaw	1749653	2324100

Using the Value Field Settings Menu

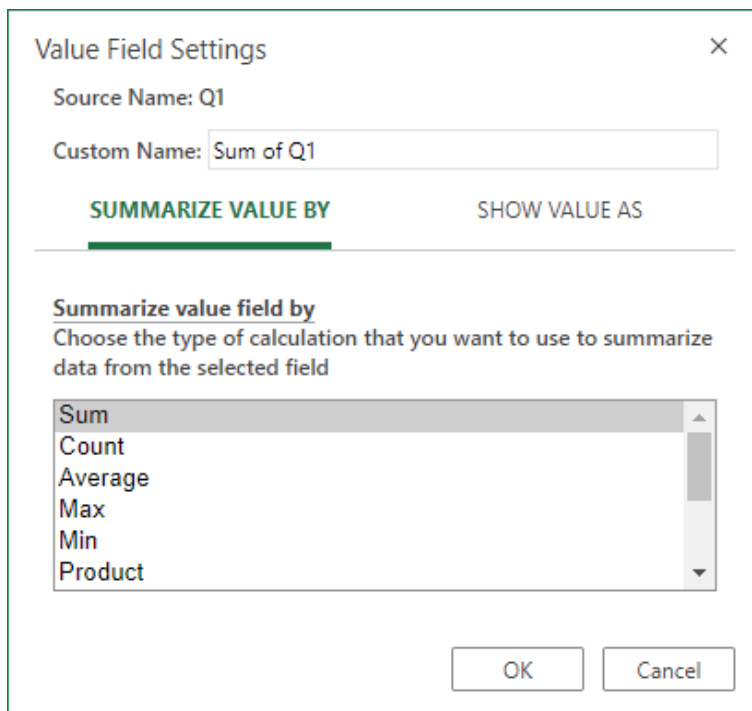
The Value Field Settings dialog box can be used for a number of purposes. To open this dialog box, click the dropdown arrow next to a field in the **Values** area:



Then click **Value Field Settings**:



The **Value Field Settings** menu will open:

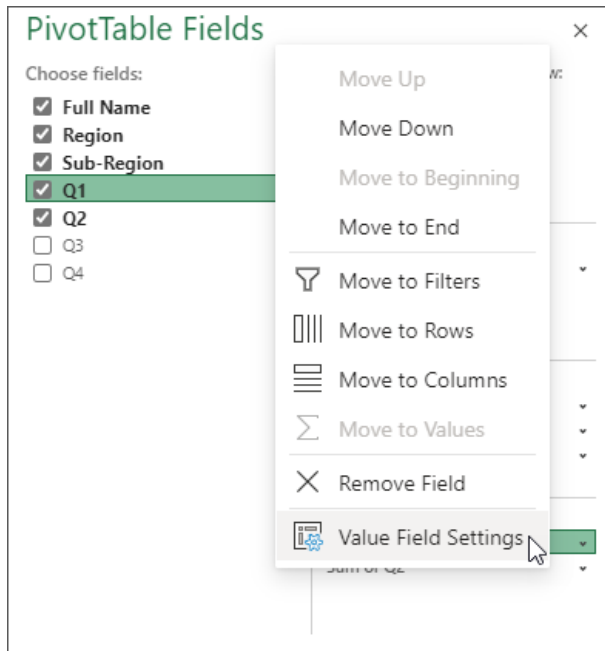


Summarizing Values

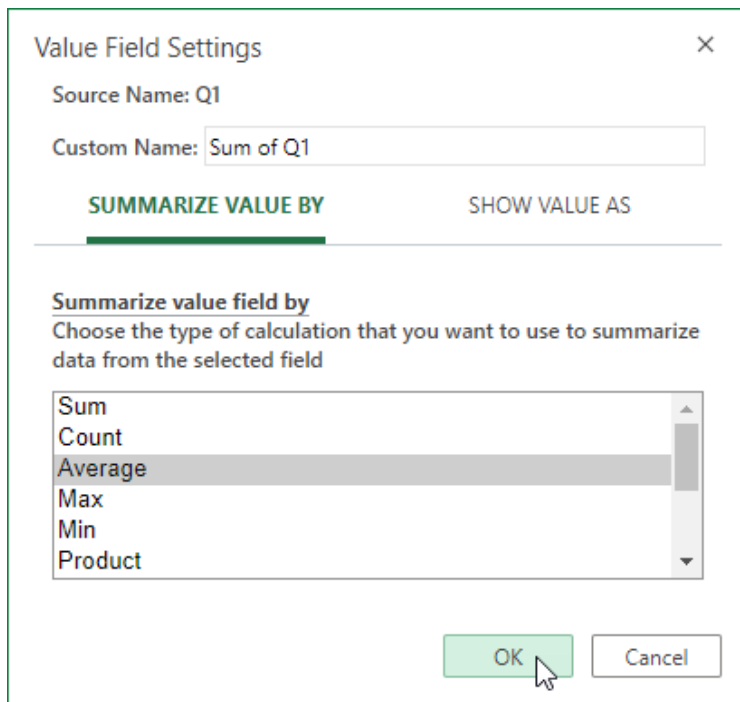
Using the Value Field Settings menu, we can change the type of calculation being applied to the field. Right now, our PivotTable is showing the sum of all the sales made in Q1:

	A	B	C	D
1				
2	Row Labels	Sum of Q1	Sum of Q2	
3	Africa	1723367	1872399	
4	America	2477360	2221117	
5	Asia	6625098	6130965	
6	Bangkok	1591847	1832522	
7	Ebonee Louch	366306	115862	
8	Hardy Eyckel	838056	656136	
9	Joy Liddyard	308928	867563	
10	Wanda Ratlee	78557	192961	
11	Manila	5033251	4298443	
12	Burton Wreath	510516	75988	
13	Delainey Mont	567336	767298	
14	Haley Dartan	929539	796359	
15	Robert Balnaves	307154	440387	
16	Rodger Campany	970595	931546	
17	Silvano Estable	934282	579060	
18	Tucky Habishaw	813829	707805	

Let's say we want to see the average of all sales instead. To start, we will click the dropdown arrow next to the field in the **Values** area of the PivotTable Fields task pane and click **Value Field Settings**:



The **Value Field Settings** dialog box will open to the **Summarize Value By** tab. Choose the new calculation and click **OK**:

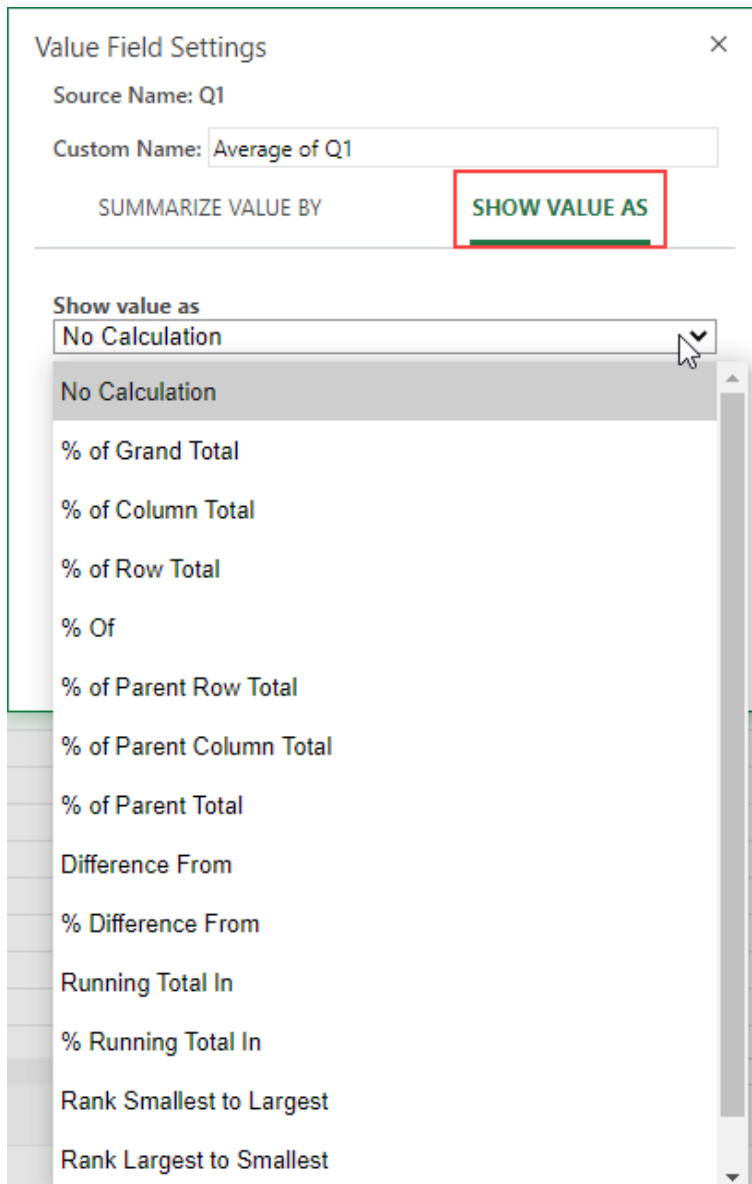


The new calculation will be performed. Notice that the column header has changed, too:

	A	B	C	D
1				
2	Row Labels	Average of Q1	Sum of Q2	
3	Africa	574455.6667	1872399	
4	America	412893.3333	2221117	
5	Asia	602281.6364	6130965	
6	Bangkok	397961.75	1832522	
7	Ebonee Louch	366306	115862	
8	Hardy Eyckel	838056	656136	
9	Joy Liddyard	308928	867563	
10	Wanda Ratlee	78557	192961	
11	Manila	719035.8571	4298443	
12	Burton Wreath	510516	75988	
13	Delainey Mont	567336	767298	
14	Haley Dartan	929539	796359	
15	Robert Balnaves	307154	440387	
16	Rodger Campany	970595	931546	
17	Silvano Estable	934282	579060	
18	Tucky Habishaw	813829	707805	

Changing Value Display

The Value Field Settings menu has another tab: **Show Values As**.

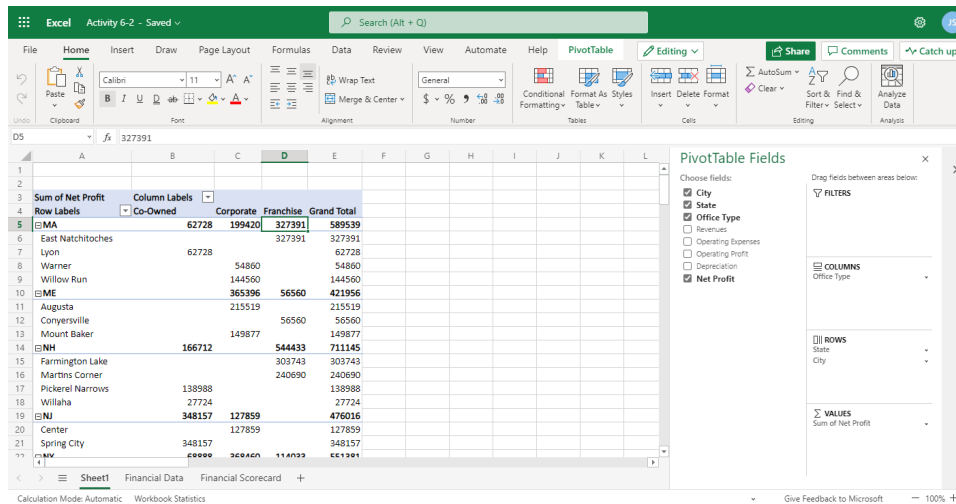


These options allow you to perform advanced functions on the selected field, such as showing running totals or percentages. Simply set your options and click **OK** to apply the change.

Activity 6-2: Working with PivotTable Data

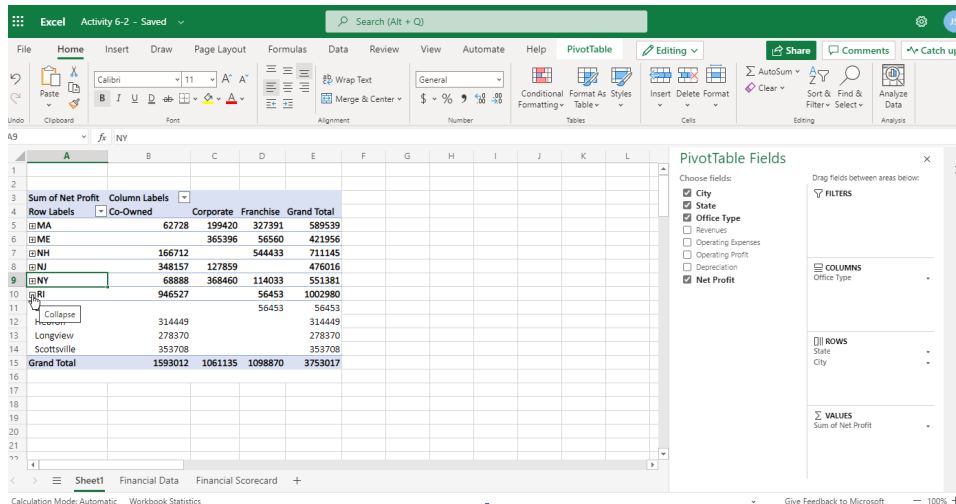
In this activity, you will customize the financial data PivotTable you created in the last activity.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 6-2 from OneDrive.
2. Click inside the PivotTable to show the PivotTable Fields task pane:

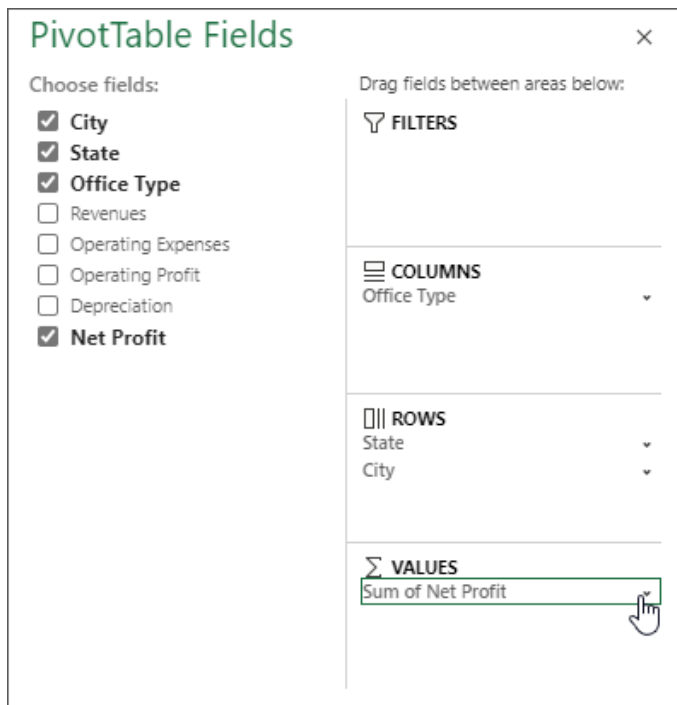


(If the task pane is already displayed, skip this step.)

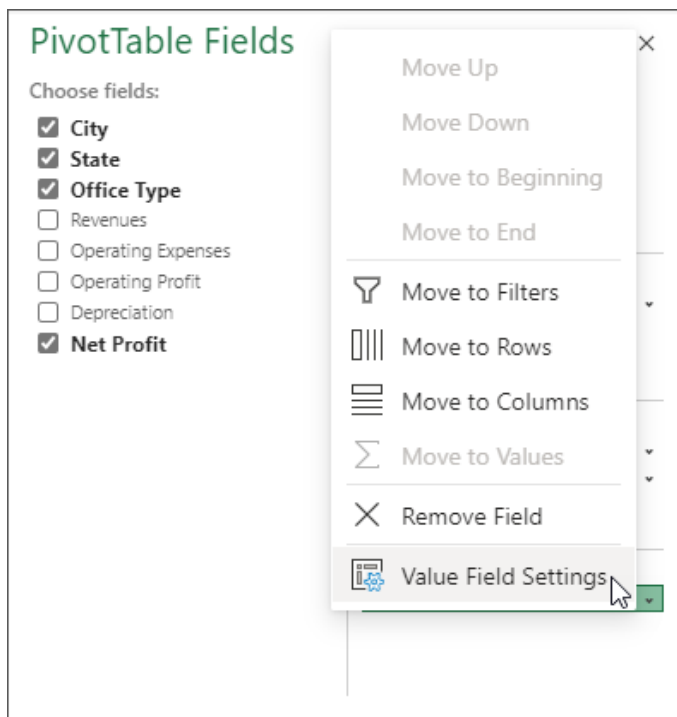
3. We want to focus on the average profit by branch type and state. Click the minus sign beside each state abbreviation to collapse the data:



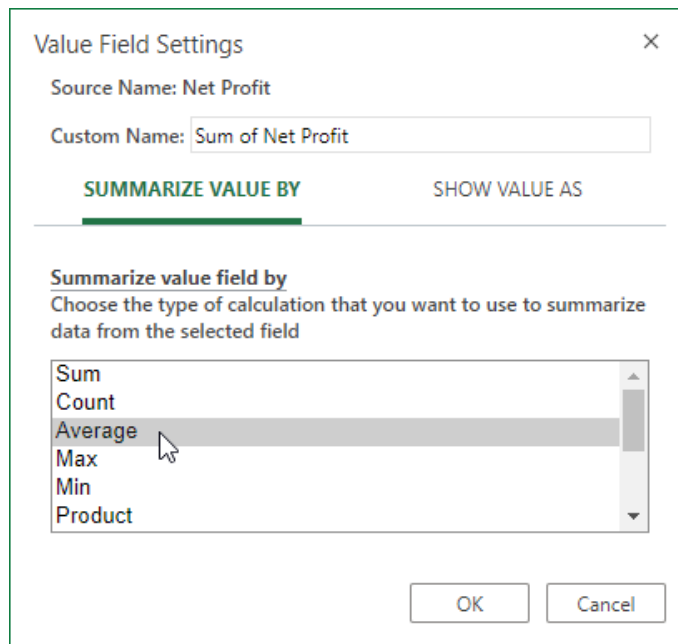
- Now, click the dropdown arrow next to the **Sum of Net Profit** field in the **Values** area of the PivotTable Fields task pane:



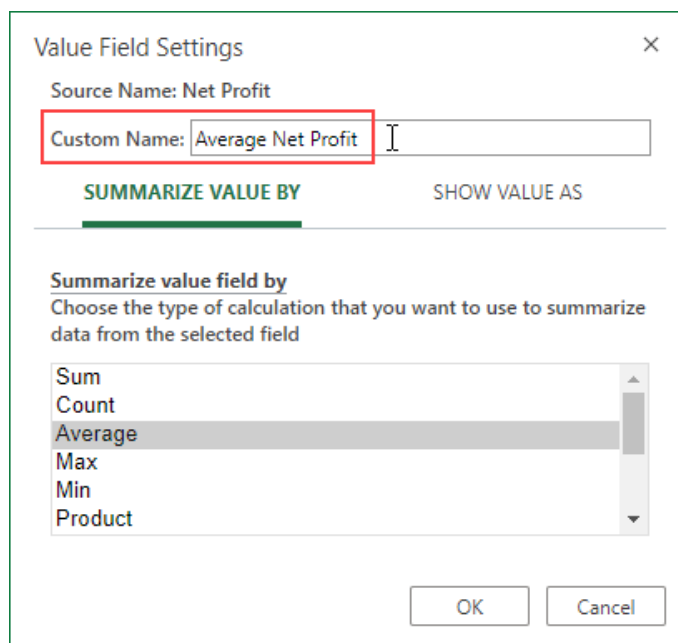
- Click **Value Field Settings**:



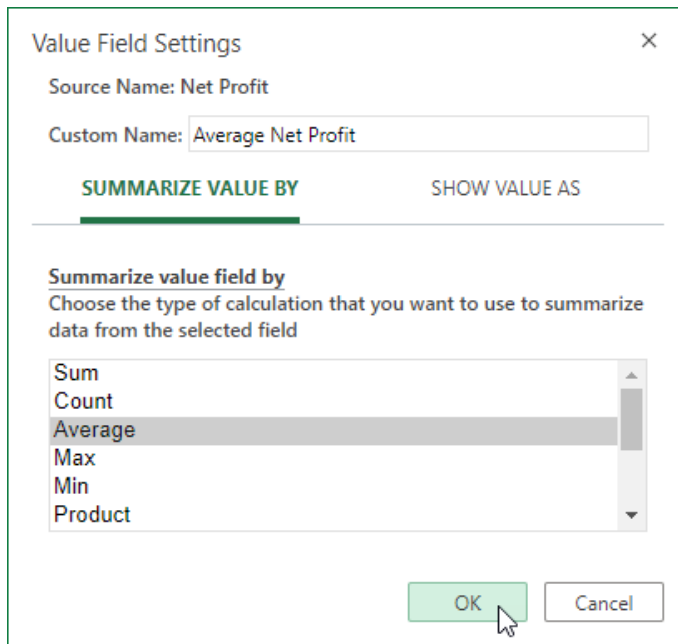
- The Value Field Settings dialog box will open to the **Summarize Value By** tab. Click the **Average** function from the list:



- Then, click the **Custom Name** field. Change the word "Sum" to "Average" and remove the word "of":



- Click **OK** to apply the changes:



- Review the results:

	A	B	C	D	E	F
1						
2						
3	Average of Net Profit	Column Labels				
4	Row Labels	Co-Owned	Corporate	Franchise	Grand Total	
5	MA	62728	99710	327391	147384.75	
6	ME		182698	56560	140652	
7	NH	83356		272216.5	177786.25	
8	NJ	348157	127859		238008	
9	NY	68888	368460	114033	183793.6667	
10	RI	315509		56453	250745	
11	Grand Total	199126.5	176855.8333	183145	187650.85	
12						

(Notice that Excel has re-added the word “of” since it is a required convention.)

- Close the Excel browser tab to complete this activity.

TOPIC C: Sorting and Filtering PivotTable Data

The final topic we will explore is how to sort and filter PivotTable data. If you have completed the lessons on sorting and filtering worksheet and table data, you will notice that these tasks are almost exactly the same with PivotTables, although there are some additional options available.

Topic Objectives

In this session, you will learn how to:

- Sort PivotTable data
- Use the Filters pane
- Use label and value filters
- Clear filters

Sorting Data

To sort PivotTable data, click the **Row Labels** or **Column Labels** dropdown arrow (depending on what you want to sort), choose the field you want to sort by, and choose the desired sort type:

	A	B	C	D	E	F	G
1							
2	Row Labels	Average of Q1	Sum of Q2				
3	▣ Africa						
4	▣ America						
5	▣ Asia						
6	▣ Bangkok						
7	Ebonee Louch						
8	Hardy Eyckel	838056					
9	Joy Liddyard	308928					
10	Wanda Ratlee	78557					
11	▣ Manila	719035.8571					
12	Burton Wreath	510516					
13	Delainey Mont	567336					
14	Haley Dartan	929539					
15	Robert Balnaves	307154	440387				
16	Rodger Company	970595	931546				
17	Silvano Estable	934282	579060				
18	Tucky Habishaw	813829	707805				

In addition to the **Sort Ascending** and **Sort Descending** options we have seen previously (which will sort the data in those fields), the **Sort By Value** command opens the following dialog box:

Sort By Value (Region) ×

Select value

Average of Q1 ▾

Sort options

Smallest to Largest

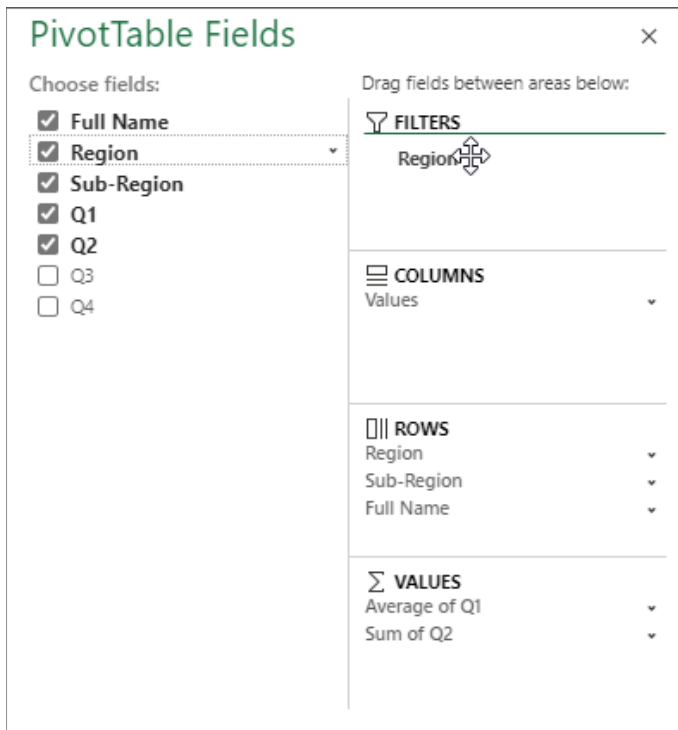
Largest to Smallest

To change the selection press the up and down arrow

These additional options will sort the numerical data in the PivotTable rather than the row or column headers.

Using the Filters Pane

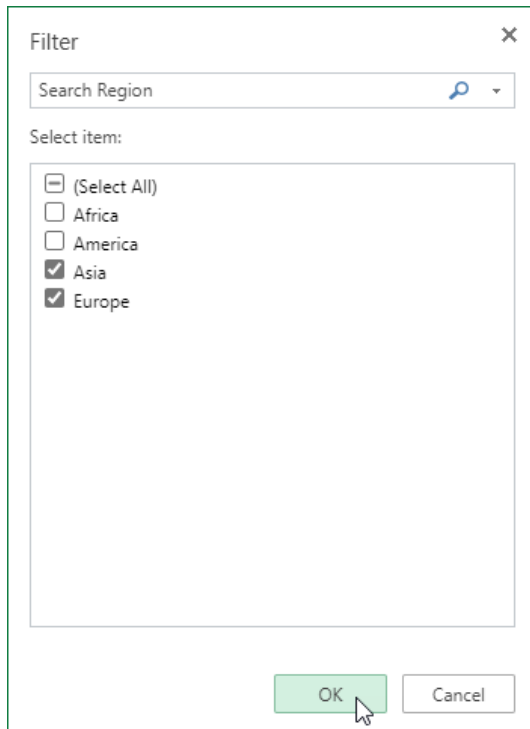
You can use the **Filters** area of the PivotTable Fields pane to filter the PivotTable data. For this example, let's filter by region:



Now, we will see a Region menu at the top of the PivotTable. Let's click the dropdown arrow to get started:

	A	B	C	D
1	Region	(All)		
2				Filter and Sort
3	Row Labels	Average of Q1	Sum of Q2	
4	▢ Bangkok	397961.75	1832522	
5	Ebonee Louch	366306	115862	
6	Hardy Eyckel	838056	656136	
7	Joy Liddyard	308928	867563	
8	Wanda Ratlee	78557	192961	
9	▢ Lisbon	662470.3333	2303086	
10	Hercules Almon	420281	807085	
11	Sylvan Eshmade	595349	848364	
12	Tally Leppington	971781	647637	
13	▢ Manila	719035.8571	4298443	
14	Burton Wreath	510516	75988	
15	Delainey Mont	567336	767298	
16	Haley Dartan	929539	796359	
17	Robert Balnaves	307154	440387	
18	Rodger Campanv	970595	931546	

The Filter dialog box will open. Here, we can check the region(s) we want to view and click **OK**:



Here are the results:

	A	B	C	D
1	Region	(Multiple Items)		
2				
3	Row Labels	Average of Q1	Sum of Q2	
4	☐ Bangkok	397961.75	1832522	
5	Ebonee Louch	366306	115862	
6	Hardy Eyckel	838056	656136	
7	Joy Liddyard	308928	867563	
8	Wanda Ratlee	78557	192961	
9	☐ Lisbon	662470.3333	2303086	
10	Hercules Almon	420281	807085	
11	Sylvan Eshmade	595349	848364	
12	Tally Leppington	971781	647637	
13	☐ Manila	719035.8571	4298443	
14	Burton Wreath	510516	75988	
15	Delainey Mont	567336	767298	
16	Haley Dartan	929539	796359	
17	Robert Balnaves	307154	440387	
18	Rodger Campany	970595	931546	

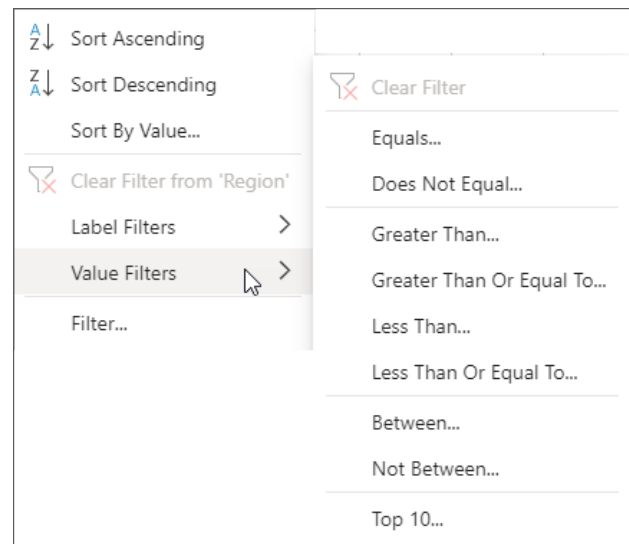
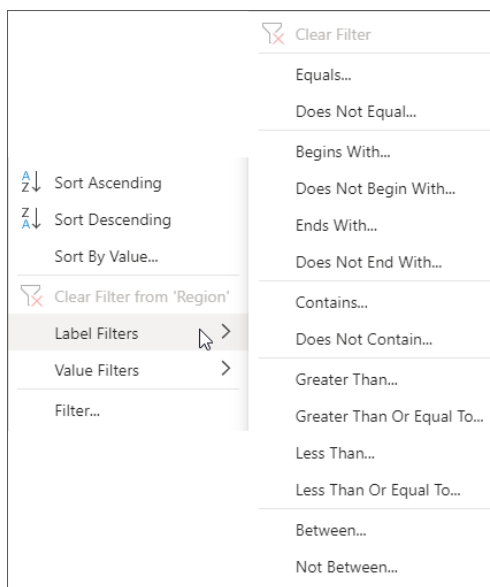
Notice that the **Region** filter menu shows that the data is being filtered. We can click this filter icon to reopen the Filter dialog box and modify our settings.

Using Label and Value Filters

You can also access filtering options from the **Row Labels** and **Column Labels** dropdown menus:

	A	B	C	D	E	F
1						
2	Row Labels	Average of Q1	Sum of Q2			
3	Africa					
4	America					
5	Asia					
6	Bangkok					
7	Ebonee Louch					
8	Hardy Eyckel	838056				
9	Joy Liddyard	308928				
10	Wanda Ratlee	78557				
11	Manila	719035.8571				
12	Burton Wreath	510516				
13	Delainey Mont	567336				
14	Haley Dartan	929539				
15	Robert Balnaves	307154	440387			
16	Rodger Company	970595	931546			
17	Silvano Estable	934282	579060			
18	Tucky Habishaw	813829	707805			

The **Filter** command will open the dialog box we just looked at, while the **Label Filters** and **Value Filters** menus work in the same way as the filtering options discussed in Lesson 2E:



Remember, clicking each of these commands will open the Custom Filter dialog box pre-populated with the selected operator. You can then enter the criteria required. Here is an example:

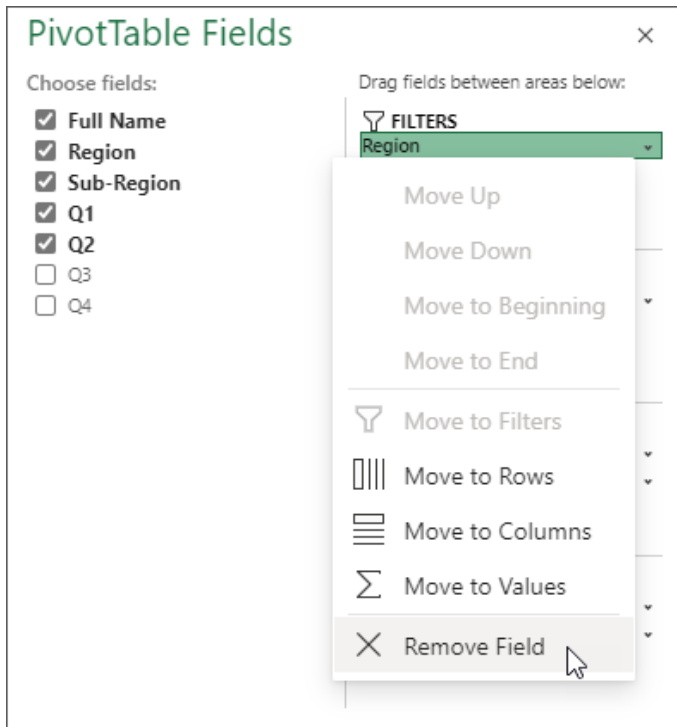
(Notice that you can change the field being filtered and the operator from this dialog box.)

Clearing Filters

There are two ways to clear a filter. If you have applied it from the Row Labels or Column Labels menu, you can also clear it from there:

	A	B	C	D	E	F	G
1							
2	Row Labels	Average of Q1	Sum of Q2				
3	▣ Africa						
4	▣ America						
5	▣ Asia						
6	▣ Bangkok						
7	Ebonee Louch						
8	Hardy Eyckel	838056	6561				
9	Joy Liddyard	308928	8675				
10	Wanda Ratlee	78557	1925				
11	▣ Manila	719035.8571	42984				
12	Burton Wreath	510516	759				
13	Delainey Mont	567336	7672				
14	Haley Dartan	929539	7963				
15	Robert Balnaves	307154	440387				
16	Rodger Campany	970595	931546				
17	Silvano Estable	934282	579060				
18	Tucky Habishaw	813829	707805				

If you have applied the filter from the PivotTable Fields task pane, click the dropdown arrow and click **Remove Field**:



Activity 6-3: Sorting and Filtering PivotTable Data

In this activity, you will sort and filter your financial data PivotTable.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 6-3 from OneDrive.
2. Click inside the PivotTable to show the **PivotTable Fields** task pane:

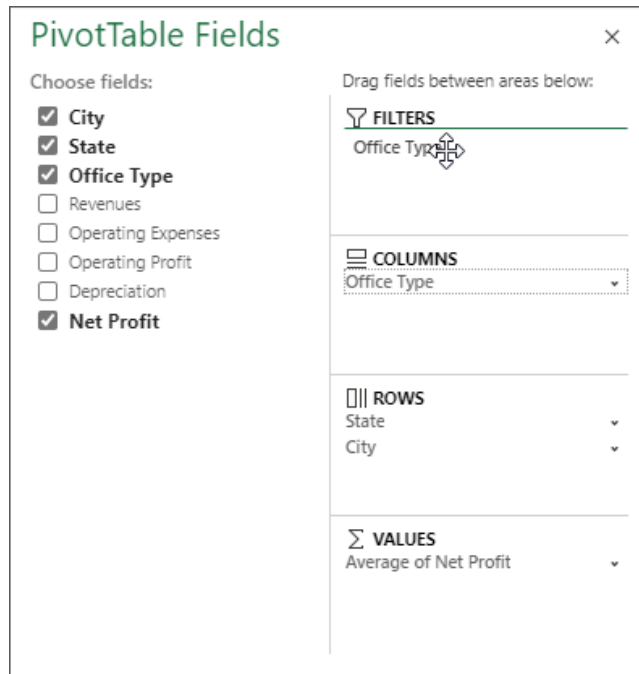
The screenshot displays the Microsoft Excel Online interface. The main area shows a PivotTable with the following data:

Average of Net Profit	Column Labels	Corporate	Franchise	Grand Total	
	Co-Owned				
	MA	62728	99710	327391	147384.75
	ME		182698	56560	140652
	NH	83356		272216.5	177786.25
	NJ	348157	127859		238008
	NY	68888	368460	114033	183793.6667
	RI	315509		56453	250745
	Grand Total	199126.5	176855.8333	183145	187650.85

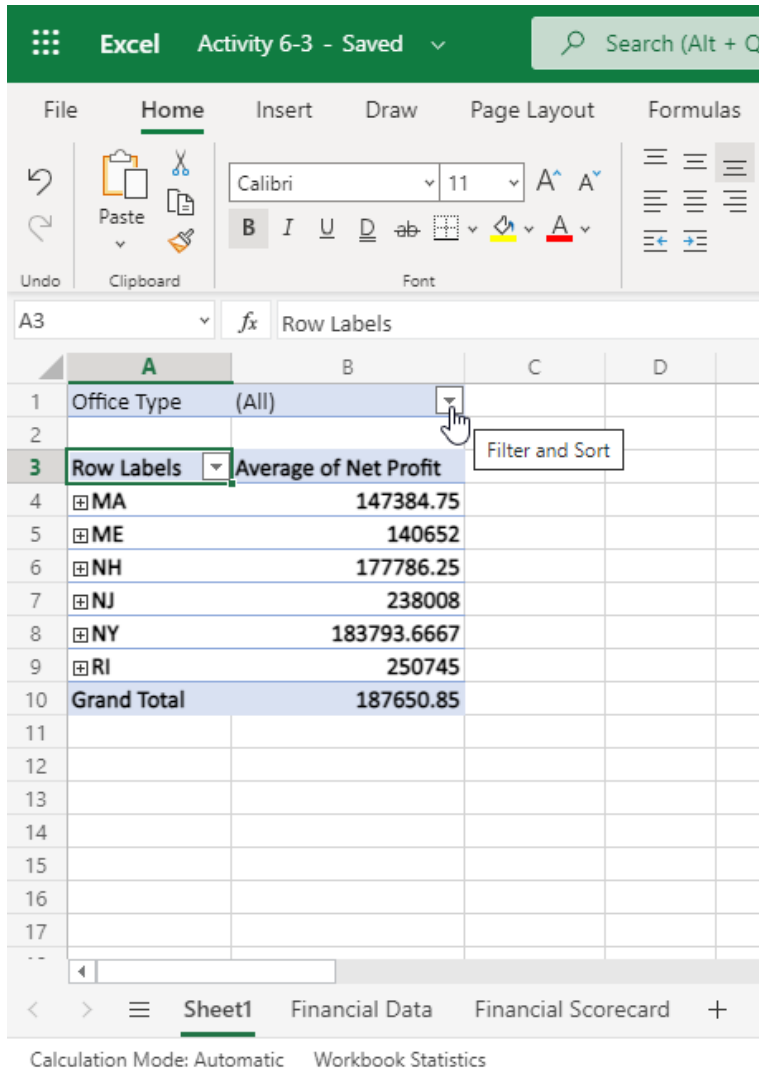
The PivotTable Fields task pane is open on the right side of the screen. It shows the following configuration:

- Choose fields:**
 - City
 - State
 - Office Type
 - Revenues
 - Operating Expenses
 - Operating Profit
 - Depreciation
 - Net Profit
- FILTERS:** (Empty)
- COLUMNS:** Office Type
- ROWS:** State, City
- VALUES:** Average of Net Profit

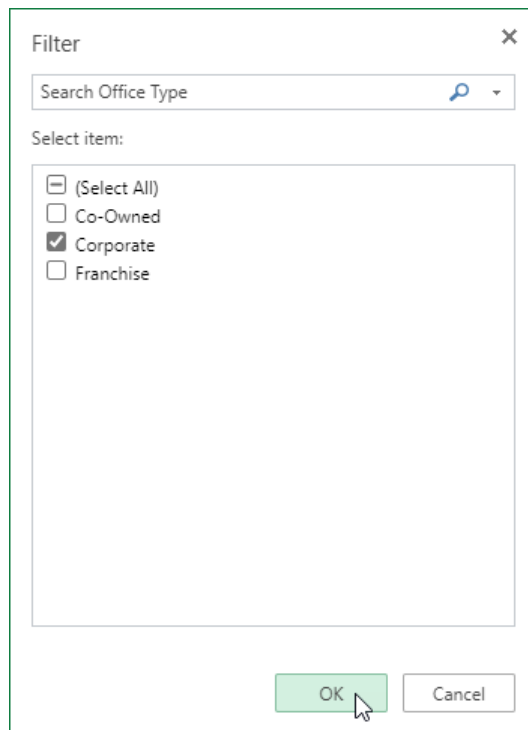
3. First, let's move the Office Type field from column display to a filter. To do this, we will drag and drop the field from the **Columns** area to the **Filters** area in the PivotTable Fields task pane:



- Now let's use this filter. Click the dropdown arrow in cell B2:



- The Filter dialog box will open. Uncheck the Co-Owned and Franchise values (leaving only Corporate) and click **OK**:



This means that only rows with Corporate as the Office Type will be shown in the PivotTable.

- The filter will be applied:

	A	B
1	Office Type	Corporate
2		
3	Row Labels	Average of Net Profit
4	MA	99710
5	ME	182698
6	NJ	127859
7	NY	368460
8	Grand Total	176855.8333

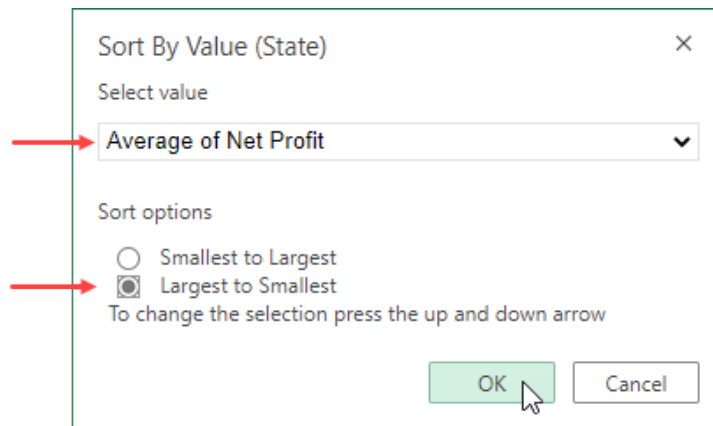
- Next, we want to sort the states by their average profit. Click the **Row Labels** dropdown menu:

	A	B
1	Office Type	Corporate
2		
3	Row Labels	Average of Net Profit
4	MA	99710
5	ME	182698
6	NJ	127859
7	NY	368460
8	Grand Total	176855.8333

- Choose State (as this is the field we want to sort) and click **Sort By Value**:

	A	B	C	D	E
1	Office Type	Corporate			
2					
3	Row Labels	Average of Net Profit			
4	MA				
5	ME				
6	NJ				
7	NY				
8	Grand Total	17			
9					
10					
11					
12					
13					
14					
15					
16					
17					

9. Ensure “Average of Net Profit” is selected for the value. Choose the **Largest to Smallest** radio button. Click **OK** to apply the sort:



10. Review the results. Then, take a moment to think about the different ways you have viewed this data:

	A	B
1	Office Type	Corporate
2		
3	Row Labels	Average of Net Profit
4	NY	368460
5	ME	182698
6	NJ	127859
7	MA	99710
8	Grand Total	176855.8333

11. Close the Excel browser tab to complete this activity.

Summary

This lesson was all about PivotTables. You should now feel comfortable inserting, modifying, and using PivotTables. You should also be able to sort and filter PivotTable data.

Review Questions

- 1. How do you create a PivotTable?**
- 2. What contextual tabs are available when working with PivotTables?**
- 3. How do you refresh PivotTable data?**
- 4. How do you change the type of calculation performed on PivotTable values?**
- 5. How do you sort PivotTable data?**

LESSON 7: FINALIZING WORKBOOKS

Lesson Objectives

In this lesson you will learn how to:

- Use comments
- Manage worksheets
- Change view options

TOPIC A: Using Comments

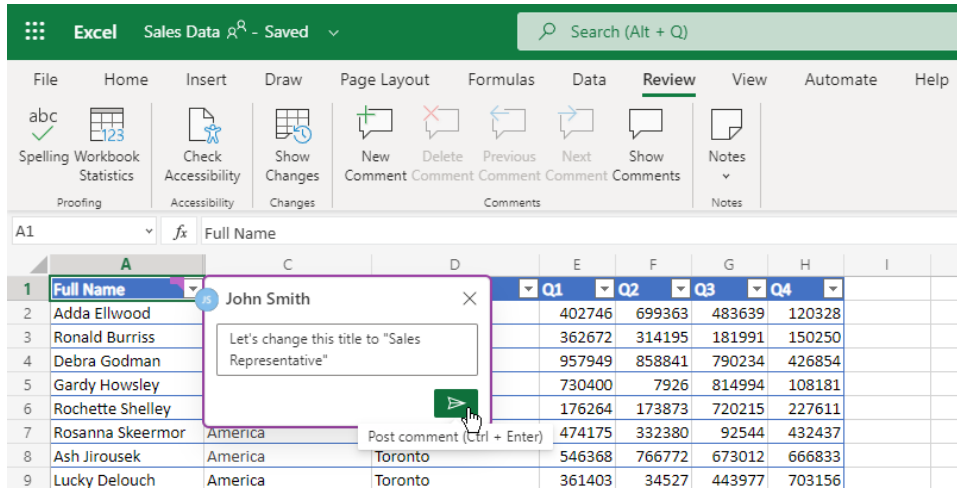
Comments are a key part of Excel Online's collaborative features. In this topic, we will learn all about comments, including how to insert, edit, reply to, navigate through, and delete them.

Topic Objectives

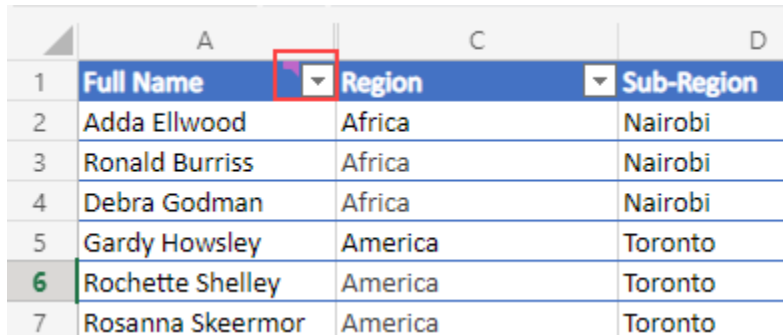
In this session, you will learn how to:

- Insert, edit, and delete comments
- Show and hide the Comments pane

Then, a comment bubble will open. Type your comment into the appropriate area. When you are finished, click the **Send** arrow or press **Ctrl + Enter**:

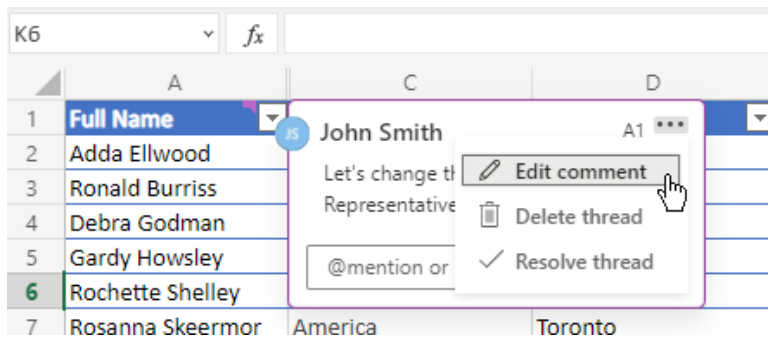


The comment will then be added, and indicated with a speech bubble icon in the workbook:

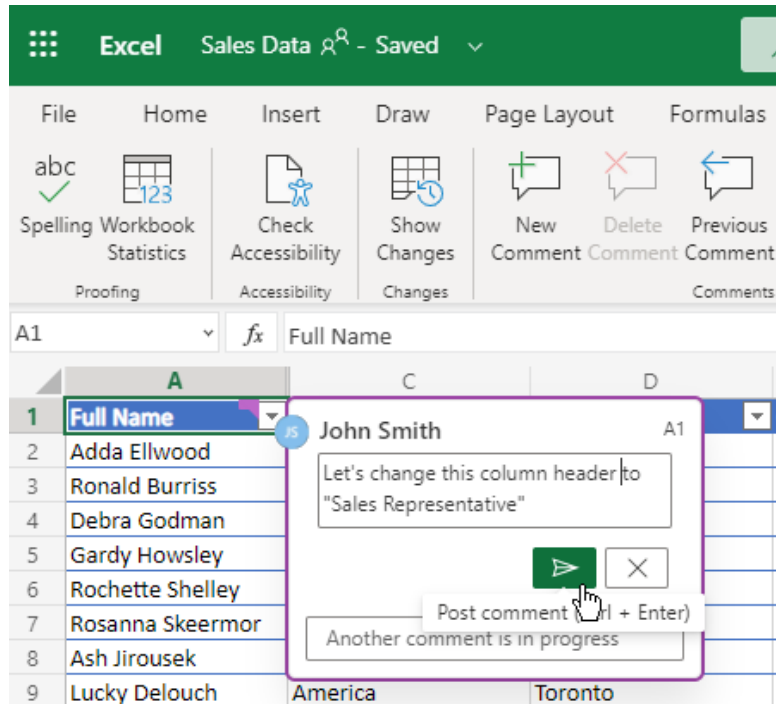


The comment can be viewed by clicking the speech bubble icon.

To edit a comment that has been posted, click the ellipses (...) in the top-right corner of the comment, and click **Edit Comment**:

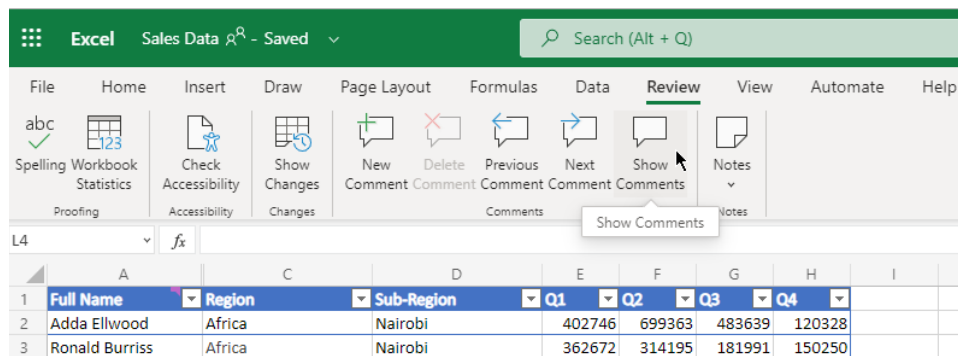


Then type your change, and click the **Send** arrow:



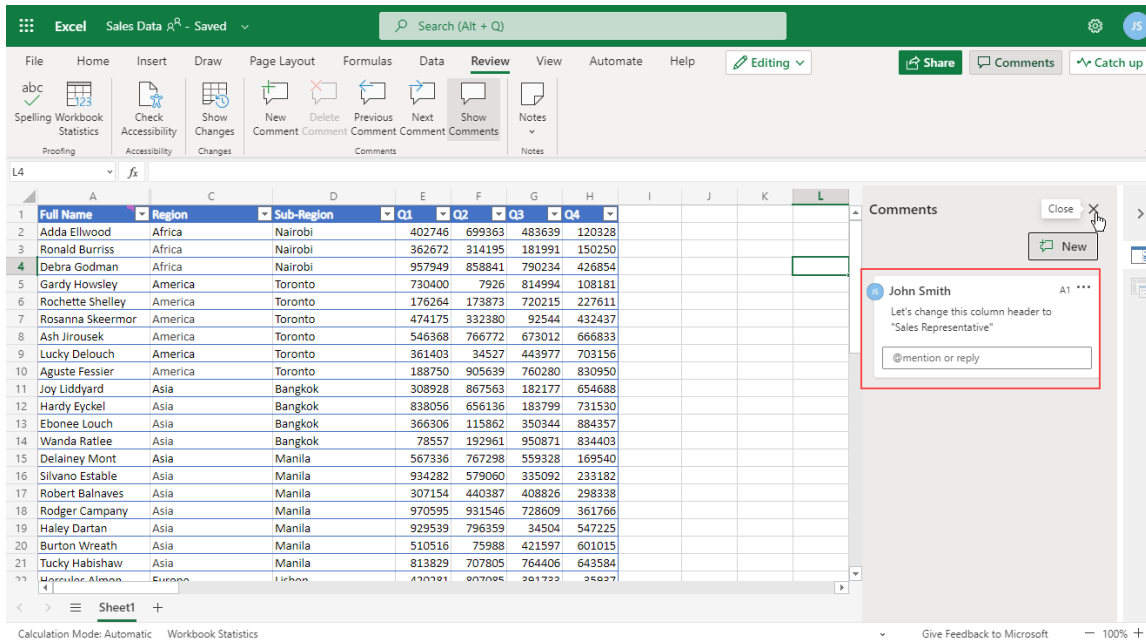
Showing and Hiding the Comments Pane

You can open the Comments pane by clicking **Review** → **Show Comments**:



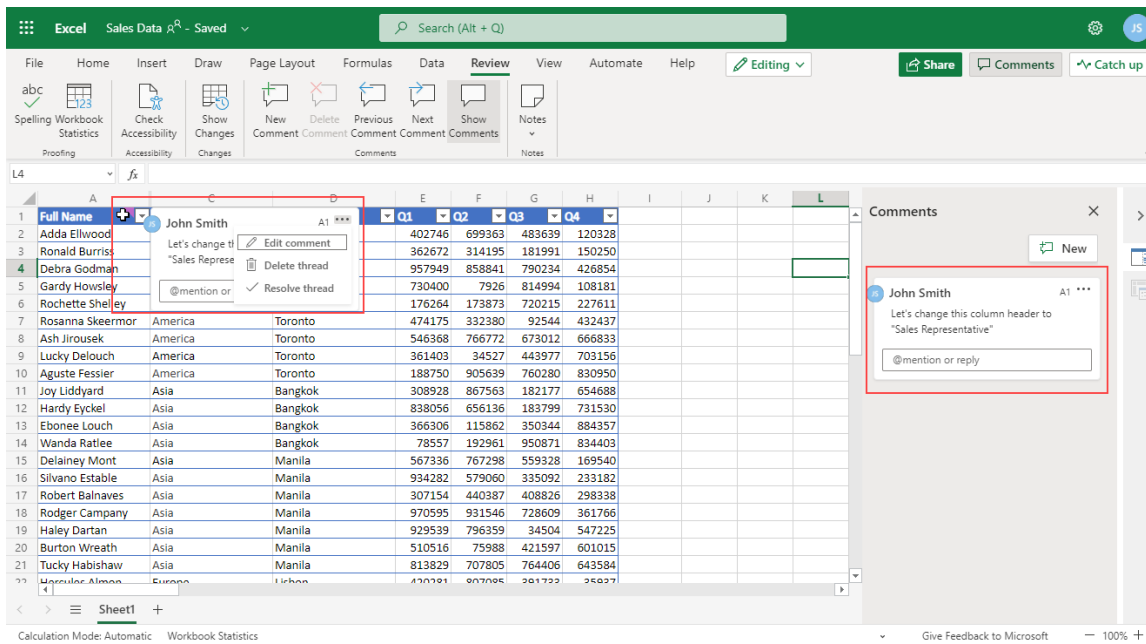
This allows you to see all of the comments on the slide in a list, navigate to other comments in the presentation, and create new comments.

You can close the Comments pane with the **X** in its top right corner:

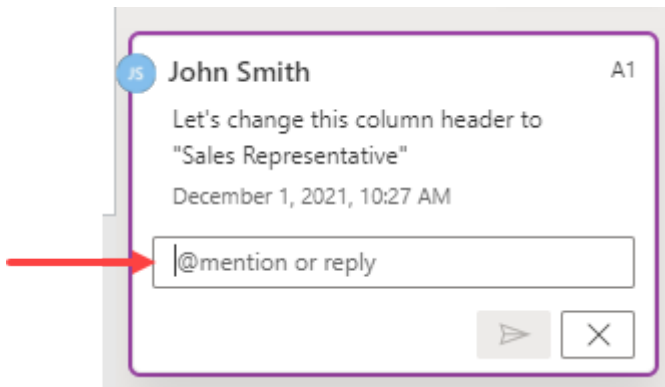


Replying to Comments

To reply to a comment, make sure the comment is selected, either by clicking the speech bubble icon, or opening the Comments pane:



Then, type your reply in the indicated field:

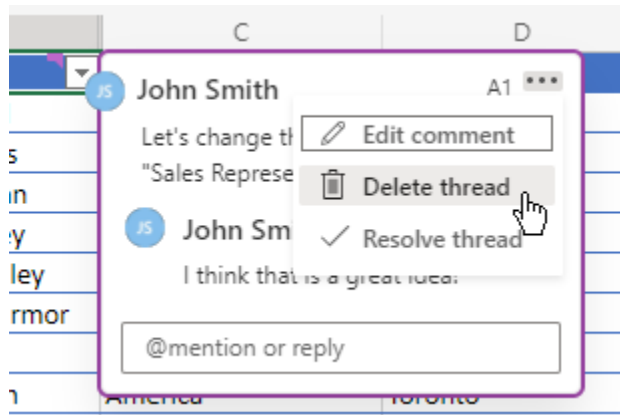


Click the **Send** arrow to post your reply:



Deleting Comments

To delete a comment, make sure the comment is selected, click the ellipses (...) in the top right corner, and click **Delete thread**:



Activity 7-1: Working with Comments

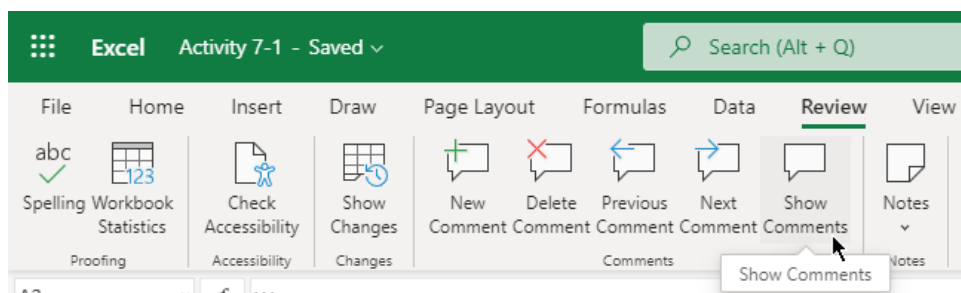
In this activity, you will review comments in a workbook, and add comments of your own.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 7-1 from OneDrive. (Refer back to Activity 1-2 and Activity 1-3 if you need help.)
2. The Financial Data sheet should be active. Look closely at cells A2 and H22. You will see a purple icon that denotes a comment:

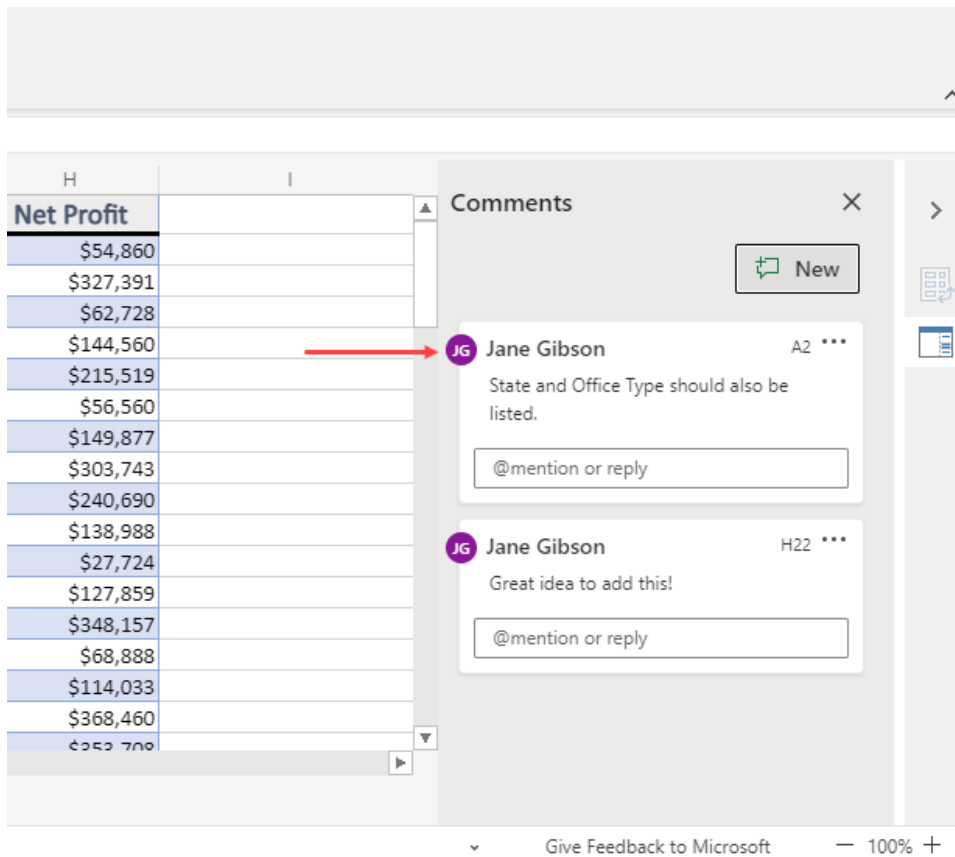
The screenshot shows the Excel interface with the 'Home' tab selected. The active sheet is 'Financial Data'. The table below is displayed in the grid:

	A	D	E	F	G	H
1	City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickerel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Center	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
14	Spring City	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
15	Mittenlane	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
16	East Waterford	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Coltman	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
18	Scottsville	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453

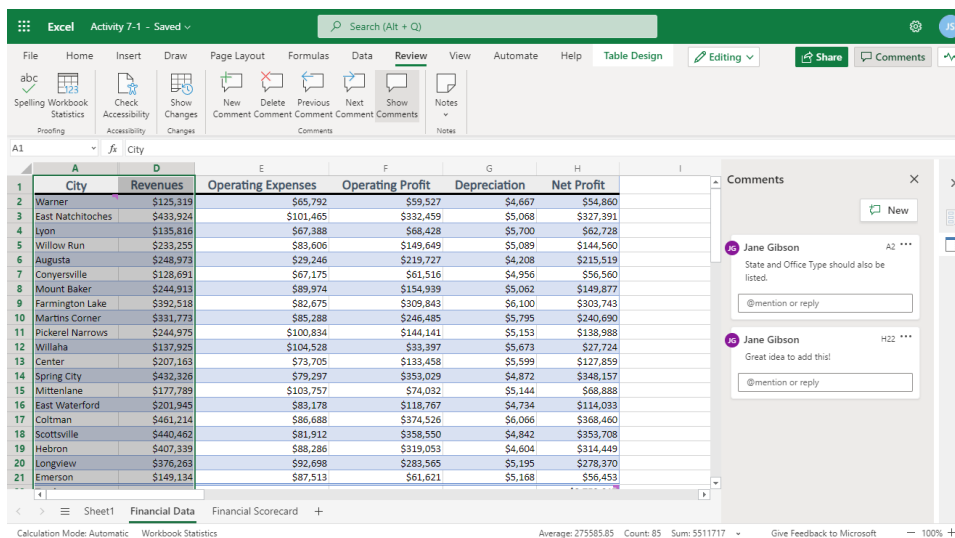
3. Let's take a closer look at these comments. Click **Review** → **Show Comments** to open the Comments task pane:



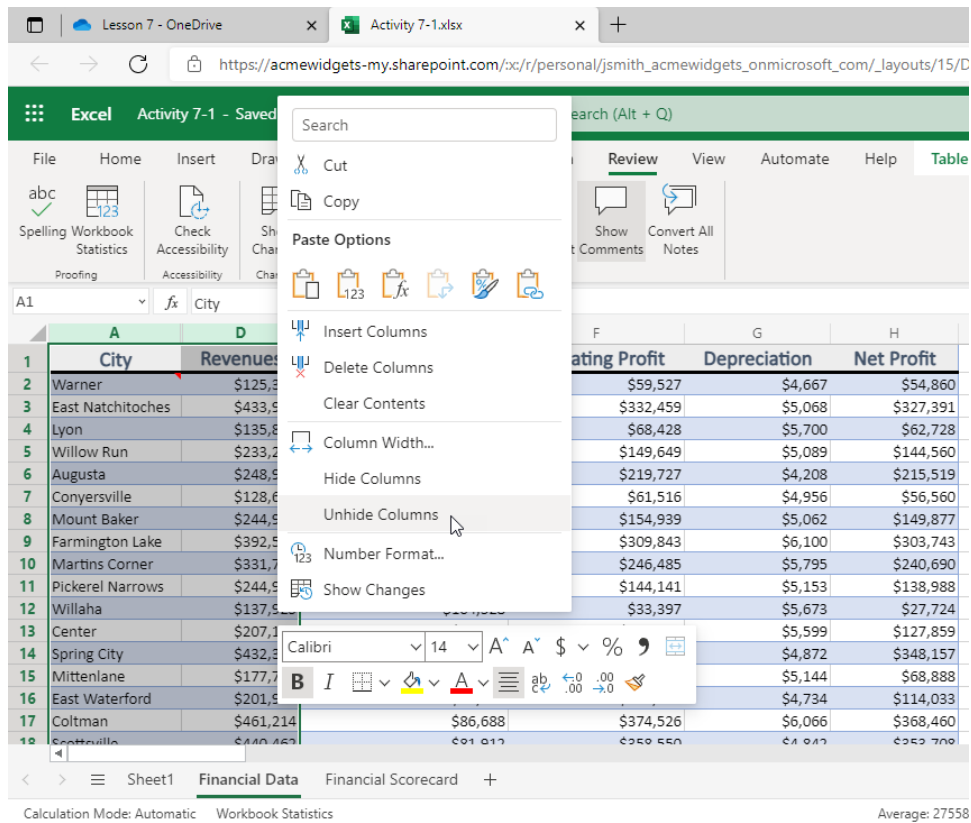
4. Read the first comment, associated with cell A2:



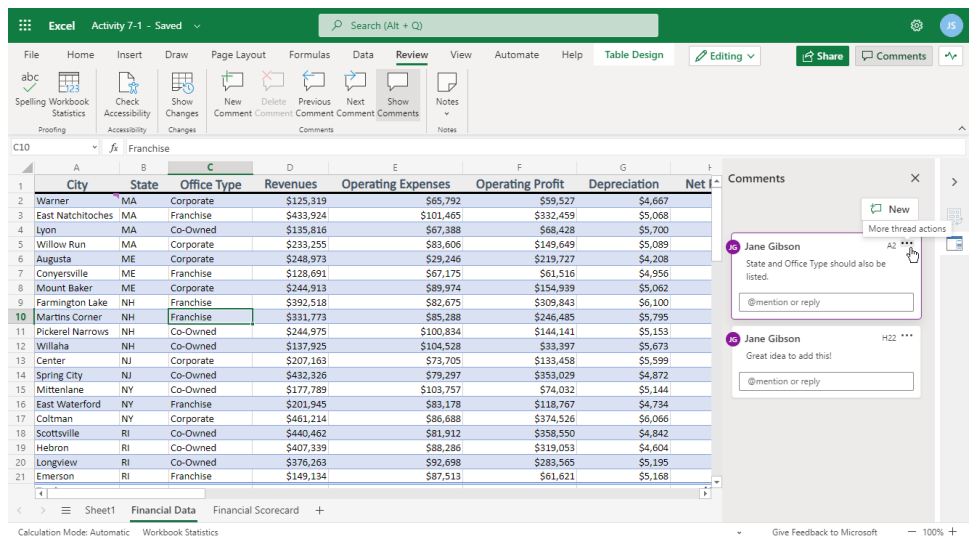
5. Jane has asked for data about the state and office type for each row. This data is present, but we hid it during a previous activity. Let's unhide it. To start, select columns A and D:



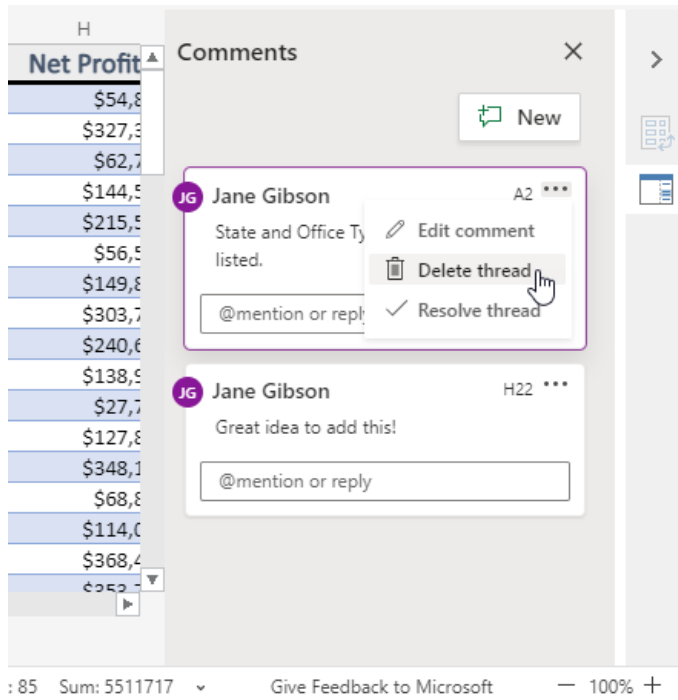
6. Right-click the column headers and click **Unhide Columns**:



7. The data will now be shown. Since we have addressed Jane’s comment, let’s delete it. Start by clicking the ellipses (...) icon in the top corner of the comment in the Comments pane:



8. Then click **Delete thread**:



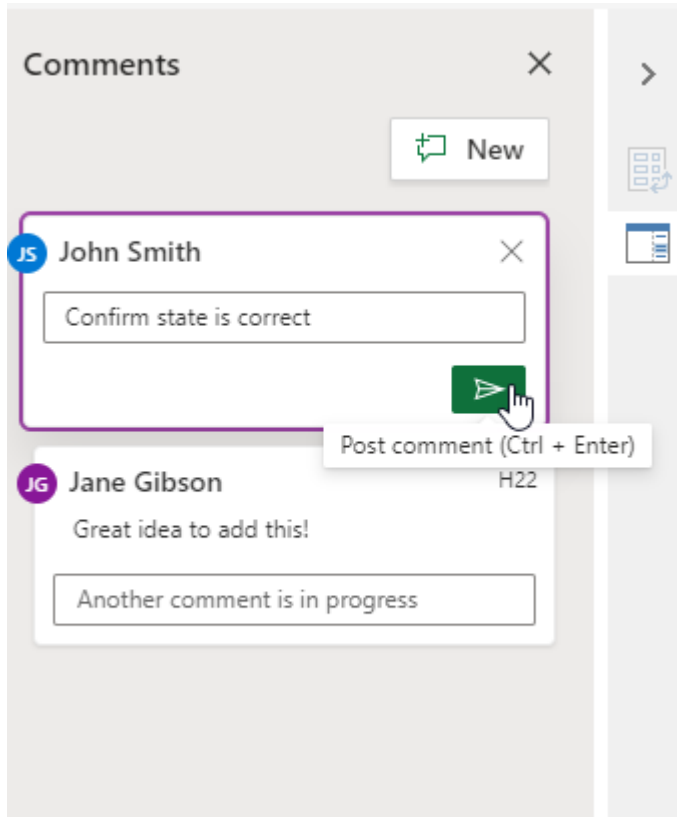
9. Finally, you think that Hebron might have the wrong state entered, so you want to add a note to remind you to double-check the data. Right-click cell **A19** and click **New Comment**:

The screenshot shows the Excel Online interface with a right-click context menu open over cell A19. The menu includes options like Cut, Copy, Paste Options, Insert, Delete, Clear Contents, Sort, Table, New Comment (highlighted), Number Format..., Hyperlink..., and Show Changes. The background table lists cities and their operating expenses.

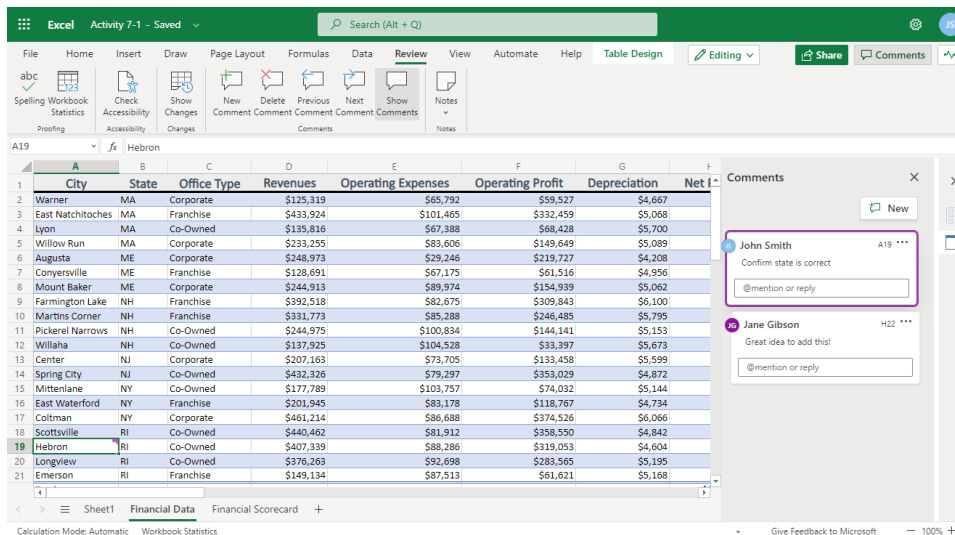
City	Operating Expenses	Oper
6 Augusta	48,973	\$29,246
7 Conyersville	28,691	\$67,175
8 Mount Baker	44,913	\$89,974
9 Farmington Lake	92,518	\$82,675
10 Martins Corner	31,773	\$85,288
11 Pickerel Narrows	44,975	\$100,834
12 Willaha	37,925	\$104,528
13 Center	07,163	\$73,705
14 Spring City	32,326	\$79,297
15 Mittenlane	77,789	\$103,757
16 East Waterford	01,945	\$83,178
17 Coltman	61,214	\$86,688
18 Scottsville	40,462	\$81,912
19 Hebron	07,339	\$88,286
20 Longview		\$92,698
21 Emerson		\$87,513
22 Total		
23		

Calculation Mode: Automatic Workbook Statistics

- In the Comments pane, type, **“Confirm state is correct”** and click the **Send** arrow:



- Your comment will be created:



- Close the Excel browser tab to complete this activity.

TOPIC B: Managing Worksheets (Part One)

So far, we have worked with single worksheets within a workbook. However, like its desktop counterpart, Excel Online allows you to create and customize additional worksheets. In fact, there are so many customization options we will explore them through two topics.

Topic Objectives

In this session, you will learn how to:

- View, insert, duplicate, and delete worksheets
- Use worksheet references in formula

Viewing Worksheets

To view a worksheet, click its tab:

	A	B	C	D	E
1					
2					
3	Row Labels	Average of Q1	Sum of Q2		
4	<input type="checkbox"/> Bangkok	397961.75	1832522		
5	Ebonee Louch	366306	115862		
6	Hardy Eyckel	838056	656136		
7	Joy Liddyard	308928	867563		
8	Wanda Ratlee	78557	192961		
9	<input type="checkbox"/> Lisbon	662470.3333	2303086		
10	Hercules Almon	420281	807085		
11	Sylvan Eshmade	595349	848364		
12	Tally Leppington	971781	647637		
13	<input type="checkbox"/> Manila	719035.8571	4298443		
14	Burton Wreath	510516	75988		
15	Delainey Mont	567336	767298		
16	Haley Dartan	929539	796359		
17	Robert Balnaves	307154	440387		
18	Rodger Campany	970595	931546		

Sheet1 Sheet2 Sheet3 +

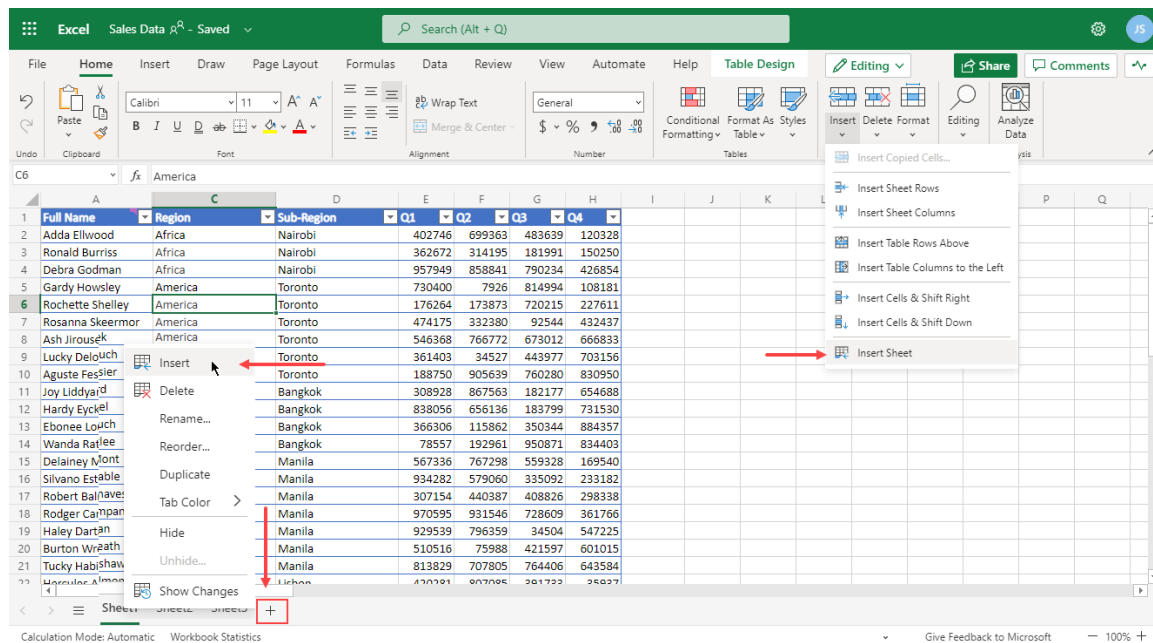
Calculation Mode: Automatic Workbook Statistics

Its data will then be displayed in the main window.

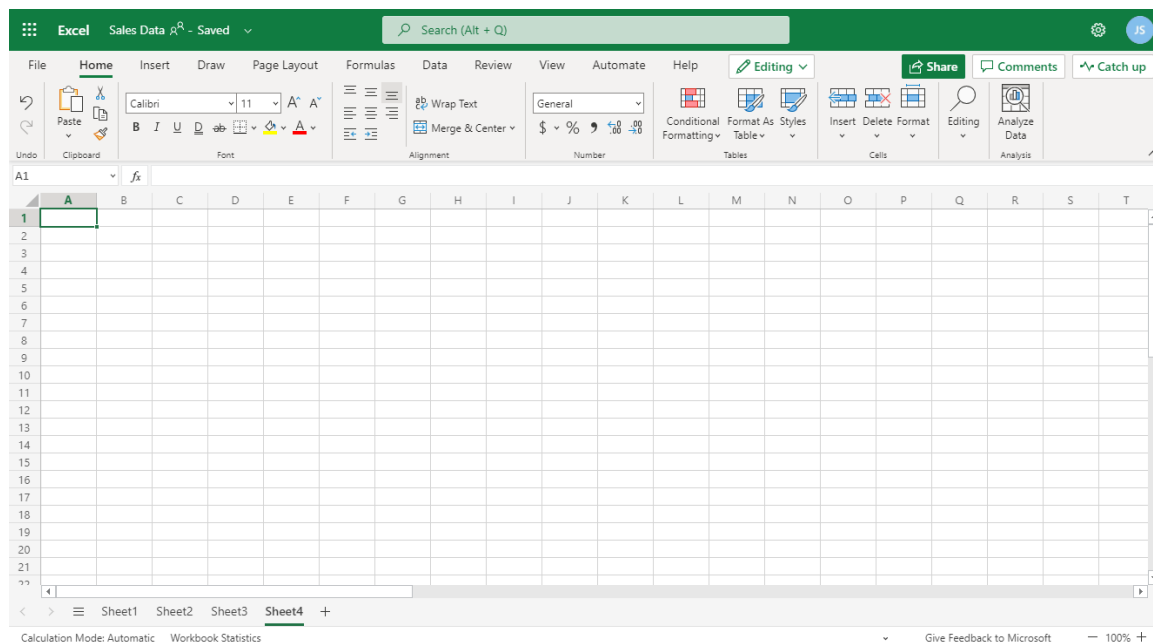
Inserting Worksheets

To insert a new worksheet, perform one of the following commands:

- Click **Home** → **Insert** → **Insert Sheet**
- Click the **New Worksheet (+)** icon on the row of sheet tabs
- Right-click a worksheet tab and click **Insert**

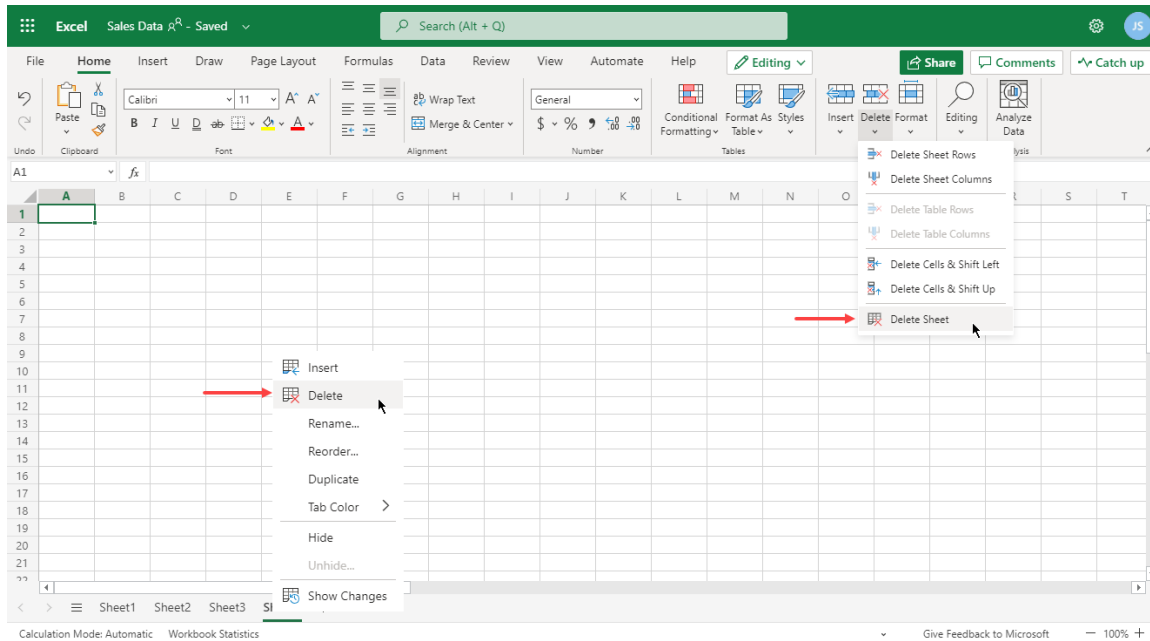


The new worksheet will be inserted, ready for your content:

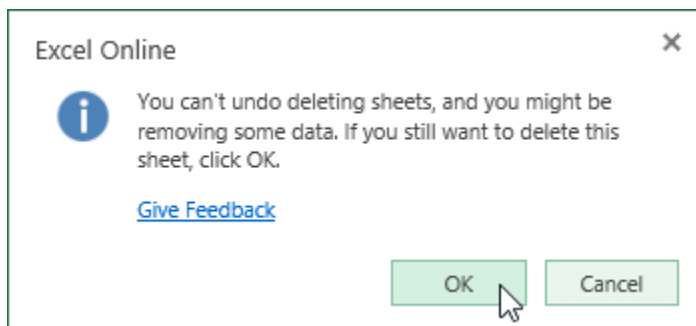


Deleting Worksheets

To delete a worksheet, ensure that the worksheet that you would like to delete is open and then click **Home** → **Delete** → **Delete Sheet**, or right-click the tab for the worksheet in question and click **Delete**:

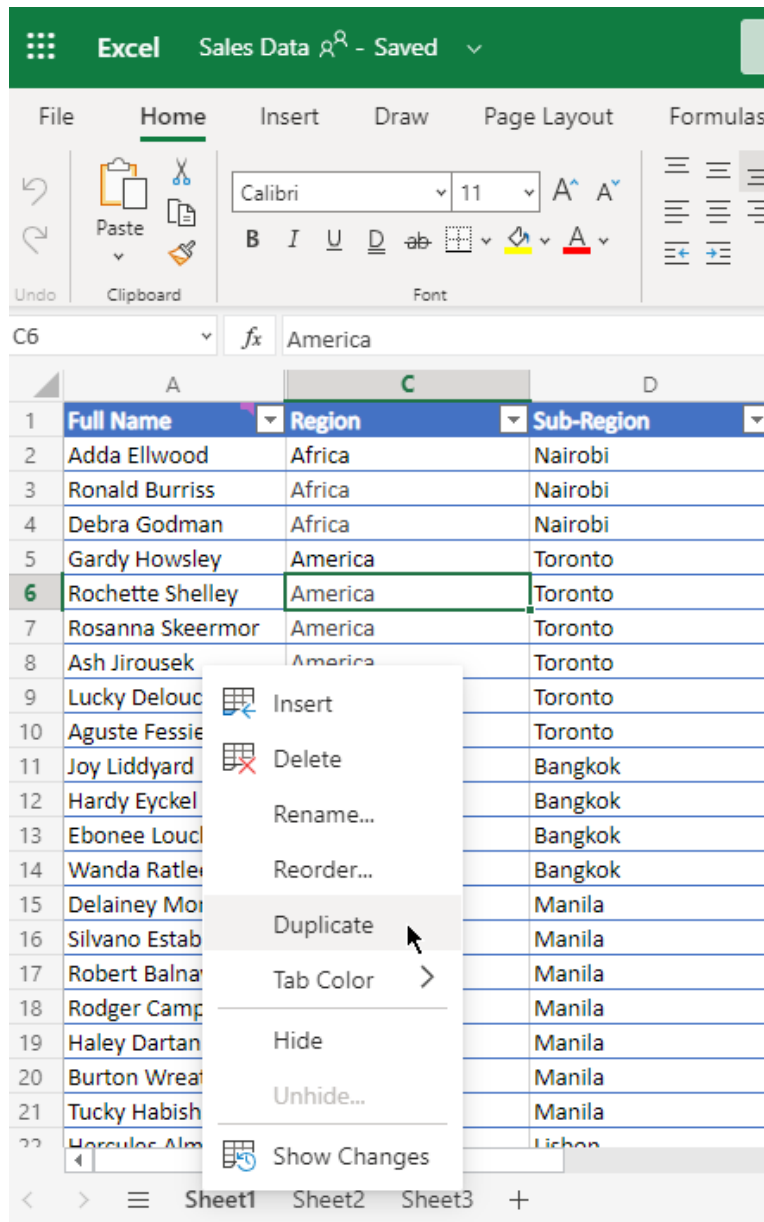


In either case, a warning dialog box will appear asking for confirmation to delete the selected worksheet. Click **OK** to complete the process:



Duplicating Worksheets

To create a copy of a worksheet, right-click its tab and click **Duplicate**:



The screenshot shows the Microsoft Excel Online interface. The title bar indicates the file is named "Sales Data" and is saved. The ribbon is set to "Home", and the font is "Calibri" in size 11. The active cell is C6, containing the text "America". A table is displayed with the following data:

	A	C	D
1	Full Name	Region	Sub-Region
2	Adda Ellwood	Africa	Nairobi
3	Ronald Burriss	Africa	Nairobi
4	Debra Godman	Africa	Nairobi
5	Gardy Howsley	America	Toronto
6	Rochette Shelley	America	Toronto
7	Rosanna Skeermor	America	Toronto
8	Ash Jirousek	America	Toronto
9	Lucky Delouc		Toronto
10	Aguste Fessie		Toronto
11	Joy Liddyard		Bangkok
12	Hardy Eyckel		Bangkok
13	Ebonee Loucl		Bangkok
14	Wanda Ratlei		Bangkok
15	Delainey Mor		Manila
16	Silvano Estab		Manila
17	Robert Balna		Manila
18	Rodger Camp		Manila
19	Haley Dartan		Manila
20	Burton Wreat		Manila
21	Tucky Habish		Manila
22	Hercules Alm		Lisbon

A context menu is open over the "Duplicate" option, which is highlighted by a mouse cursor. The menu includes options: Insert, Delete, Rename..., Reorder..., Duplicate, Tab Color, Hide, Unhide..., and Show Changes. The worksheet tabs at the bottom are labeled "Sheet1", "Sheet2", and "Sheet3".

A copy of the worksheet will immediately be created:

	A	C	D	E	F	G	H
1	Full Name	Region	Sub-Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	Africa	Nairobi	402746	699363	483639	120328
3	Ronald Burriss	Africa	Nairobi	362672	314195	181991	150250
4	Debra Godman	Africa	Nairobi	957949	858841	790234	426854
5	Gardy Howsley	America	Toronto	730400	7926	814994	108181
6	Rochette Shelley	America	Toronto	176264	173873	720215	227611
7	Rosanna Skeermor	America	Toronto	474175	332380	92544	432437
8	Ash Jirousek	America	Toronto	546368	766772	673012	666833
9	Lucky Delouch	America	Toronto	361403	34527	443977	703156
10	Aguste Fessier	America	Toronto	188750	905639	760280	830950
11	Joy Liddyard	Asia	Bangkok	308928	867563	182177	654688
12	Hardy Eyckel	Asia	Bangkok	838056	656136	183799	731530
13	Ebonee Louch	Asia	Bangkok	366306	115862	350344	884357
14	Wanda Ratlee	Asia	Bangkok	78557	192961	950871	834403
15	Delainey Mont	Asia	Manila	567336	767298	559328	169540
16	Silvano Estable	Asia	Manila	934282	579060	335092	233182
17	Robert Balnaves	Asia	Manila	307154	440387	408826	298338
18	Rodger Campany	Asia	Manila	970595	931546	728609	361766
19	Haley Dartan	Asia	Manila	929539	796359	34504	547225
20	Burton Wreath	Asia	Manila	510516	75988	421597	601015
21	Tucky Habishaw	Asia	Manila	813829	707805	764406	643584
22	Harculus Almon	Europe	Lisbon	470281	907095	381722	35927

< > ≡ **Sheet1 (2)** Sheet1 Sheet2 Sheet3 +
 Calculation Mode: Automatic Workbook Statistics

Worksheet References in Formulas

Formulas can contain references to any cell within any worksheet in the current workbook. They use the format 'Sheet_Name'!, followed by the cell or cell range. Here, a formula is used to reference the sum of a column of data from "Sheet3":

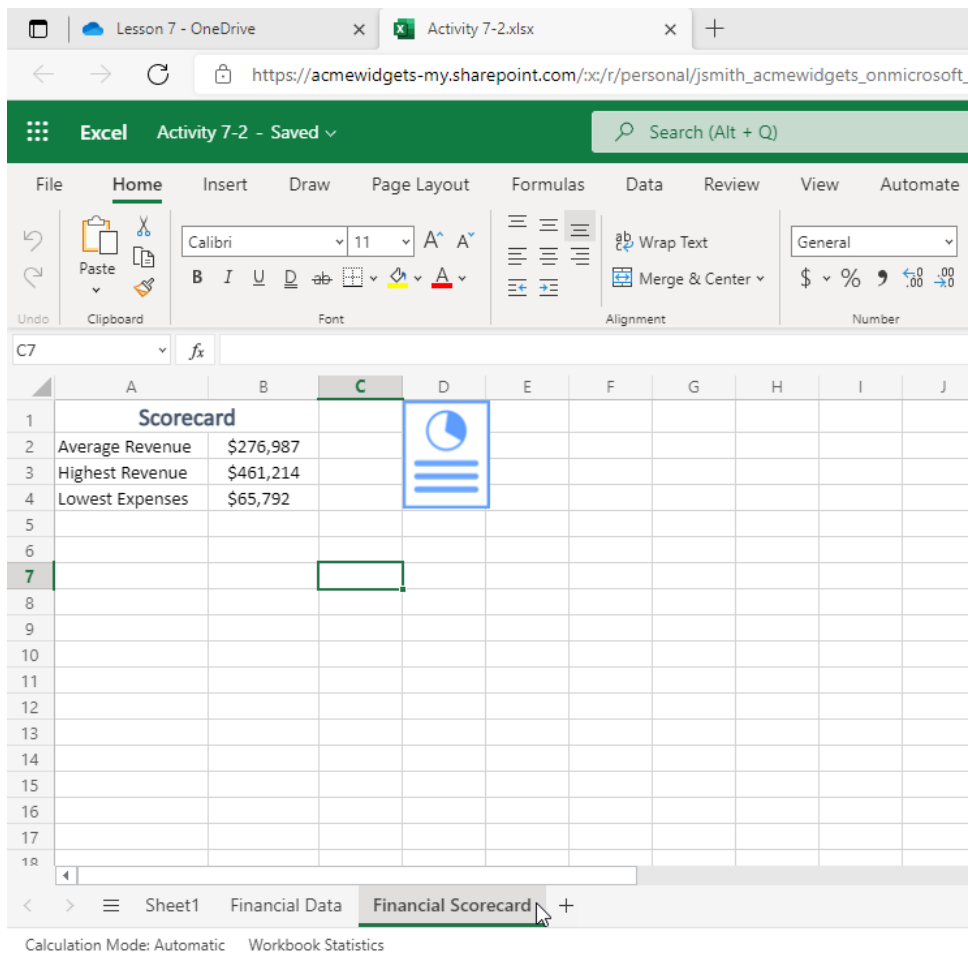
The screenshot shows the Microsoft Excel Online interface. The browser address bar displays the URL <https://acmewidgets-my.sharepoint.com/x:>. The Excel ribbon is visible, with the 'Home' tab selected. The formula bar shows the formula `=SUM(Sheet3!B5:B40)` in cell B40, which is highlighted with a red box. The spreadsheet grid shows columns A, B, C, and D, and rows 38 through 45. Cell B40 contains the value 19902708.11. A red arrow points from the formula bar to the 'Sheet3' tab in the worksheet navigation bar at the bottom. The status bar at the bottom indicates 'Calculation Mode: Automatic' and 'Workbook Statistics'.

	A	B	C	D
38				
39				
40	Q1 SUM	19902708.11		
41				
42				
43				
44				
45				

Activity 7-2: Managing Worksheets (Part One)

In this activity, you will update the structure of your financial data workbook so that more information can be included.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 7-2 from OneDrive.
2. First, click each worksheet tab and review the data in the workbook:



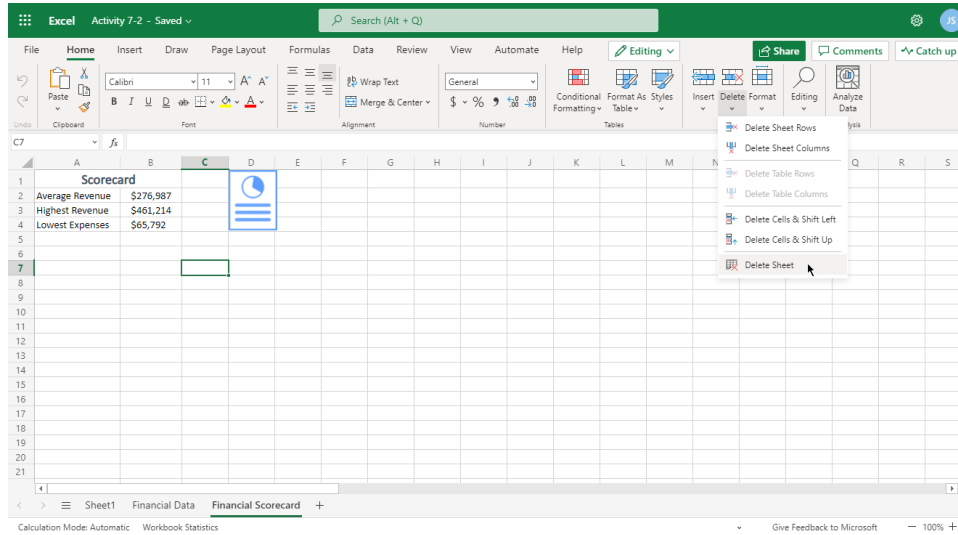
The screenshot shows the Microsoft Excel Online interface. The browser address bar displays the URL: https://acmewidgets-my.sharepoint.com/:x/r/personal/jsmith_acmewidgets_onmicrosoft.com. The Excel ribbon is visible, with the 'Home' tab selected. The ribbon includes options for File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, and Automate. The 'Home' ribbon shows options for Undo, Clipboard, Font (Calibri, 11, Bold, Italic, Underline, Paragraph), Alignment (Wrap Text, Merge & Center), and Number (General, \$, %, .00, .00).

The worksheet is titled 'Financial Scorecard' and contains the following data:

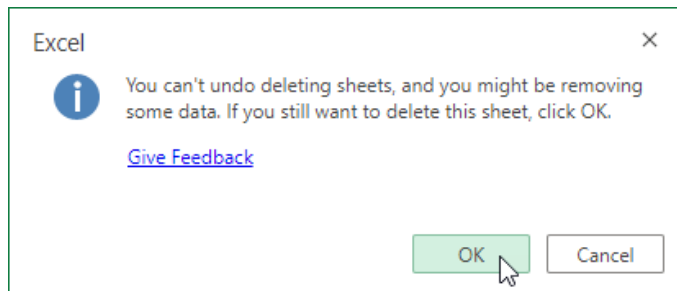
	A	B	C	D	E	F	G	H	I	J
1	Scorecard									
2	Average Revenue	\$276,987								
3	Highest Revenue	\$461,214								
4	Lowest Expenses	\$65,792								
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										

The worksheet tabs at the bottom are: Sheet1, Financial Data, and Financial Scorecard. The 'Financial Scorecard' tab is currently selected. The status bar at the bottom indicates 'Calculation Mode: Automatic' and 'Workbook Statistics'.

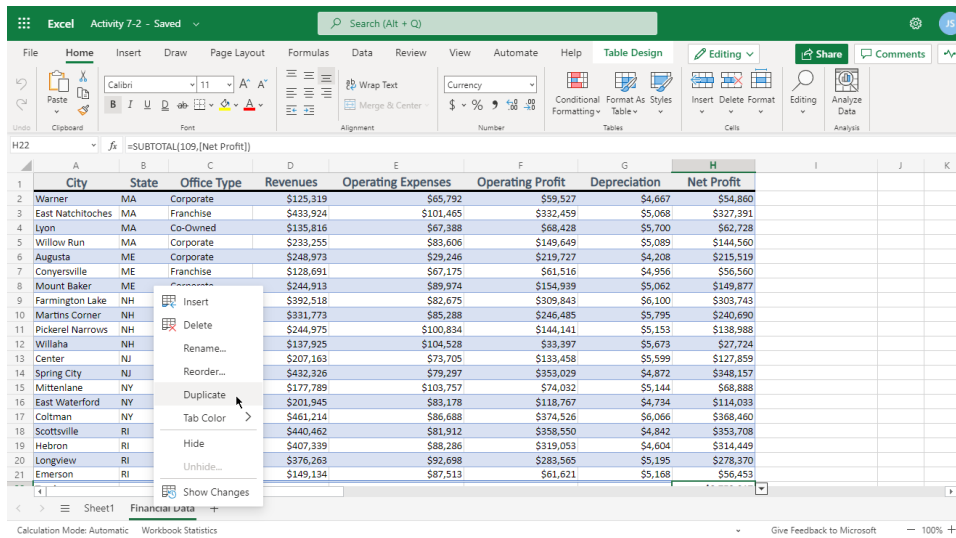
- The metrics on the Financial Scorecard tab are no longer required, so let's delete this worksheet. Ensure that this worksheet is active and click **Home** → **Delete** → **Delete Sheet**:



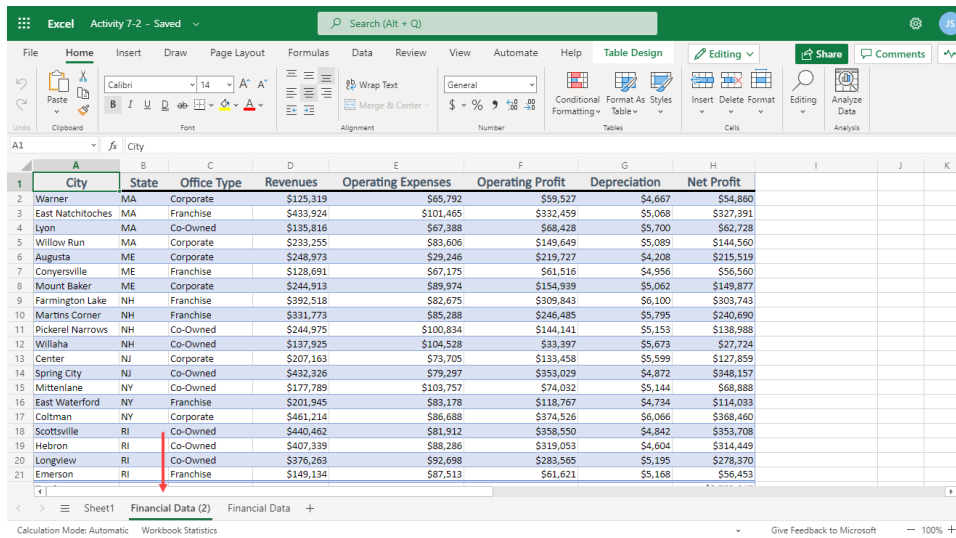
- Click **OK** to confirm the operation:



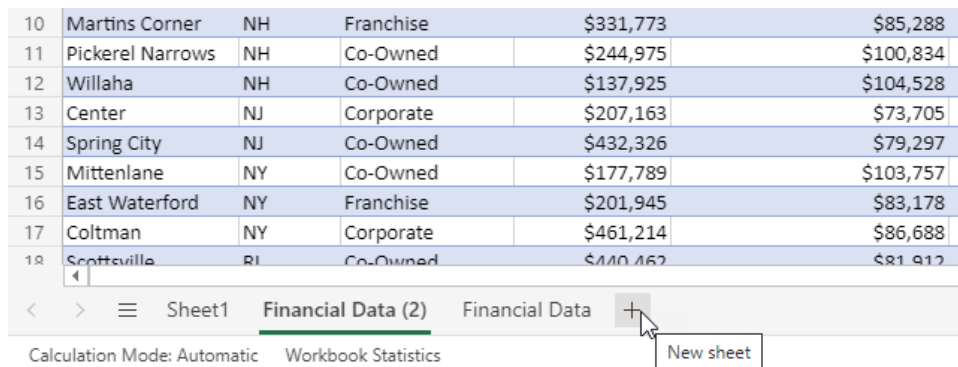
- Now, the Financial Data sheet should be displayed. Let's create a copy of it to use as a template for future years. Right-click the worksheet tab and click **Duplicate**:



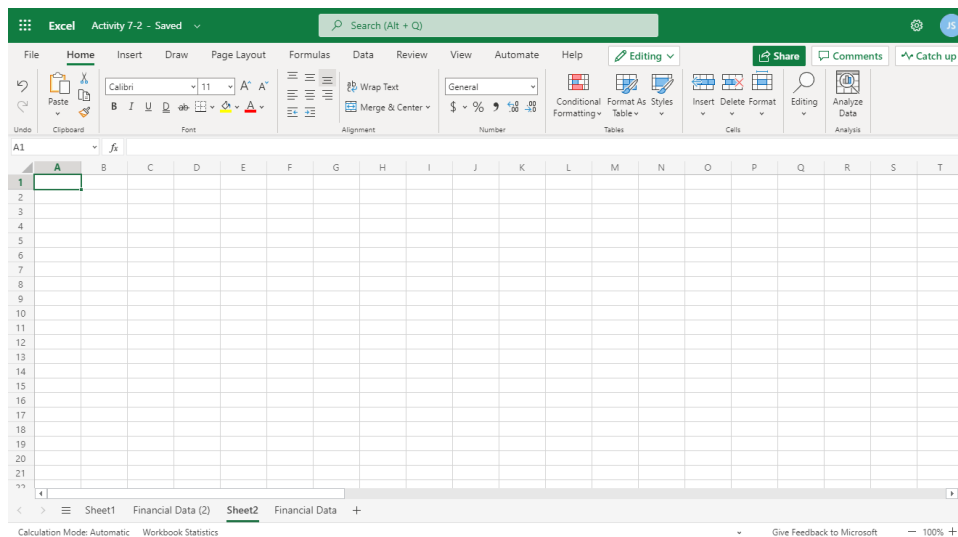
- A copy of the worksheet will be created:



- Finally, we need to add a new, blank worksheet that will contain a regional directory. Click the plus sign at the end of the worksheet tab list:



- The new sheet will be added:



- Close the Excel browser tab to complete this activity.

TOPIC C: Managing Worksheets (Part Two)

In this topic, we will conclude our exploration of managing worksheets with a look at hiding, showing, reordering, and renaming worksheets. We will also learn how to change the worksheet tab color.

Topic Objectives

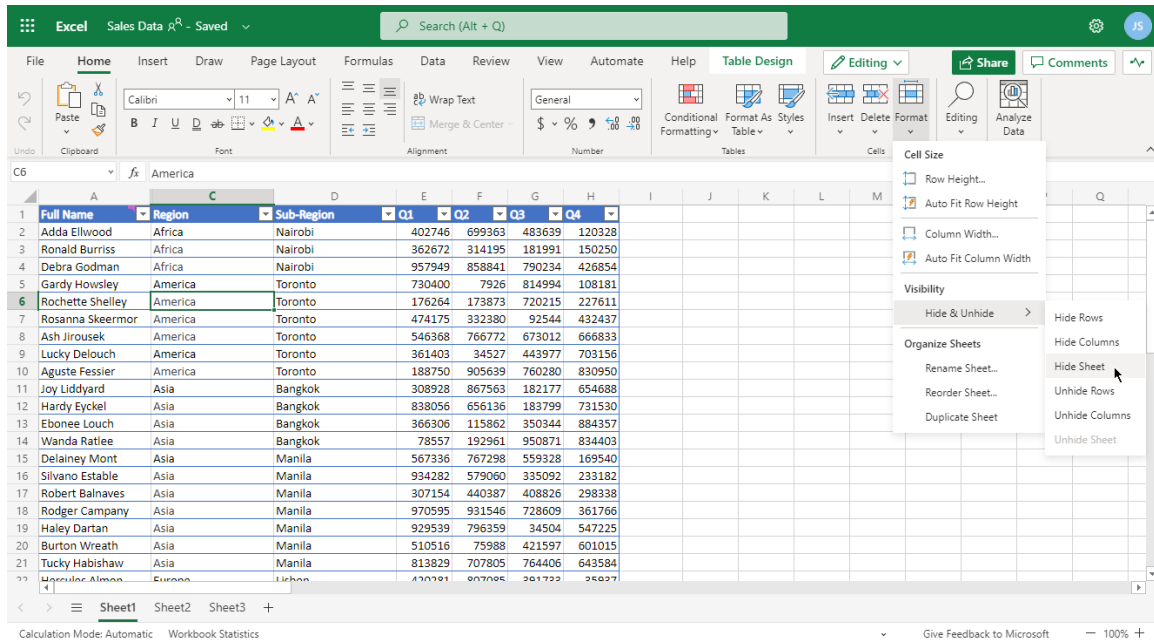
In this session, you will learn how to:

- Hide and unhide worksheets
- Reorder and rename worksheets
- Change a worksheet tab's color

Hiding and Unhiding Worksheets

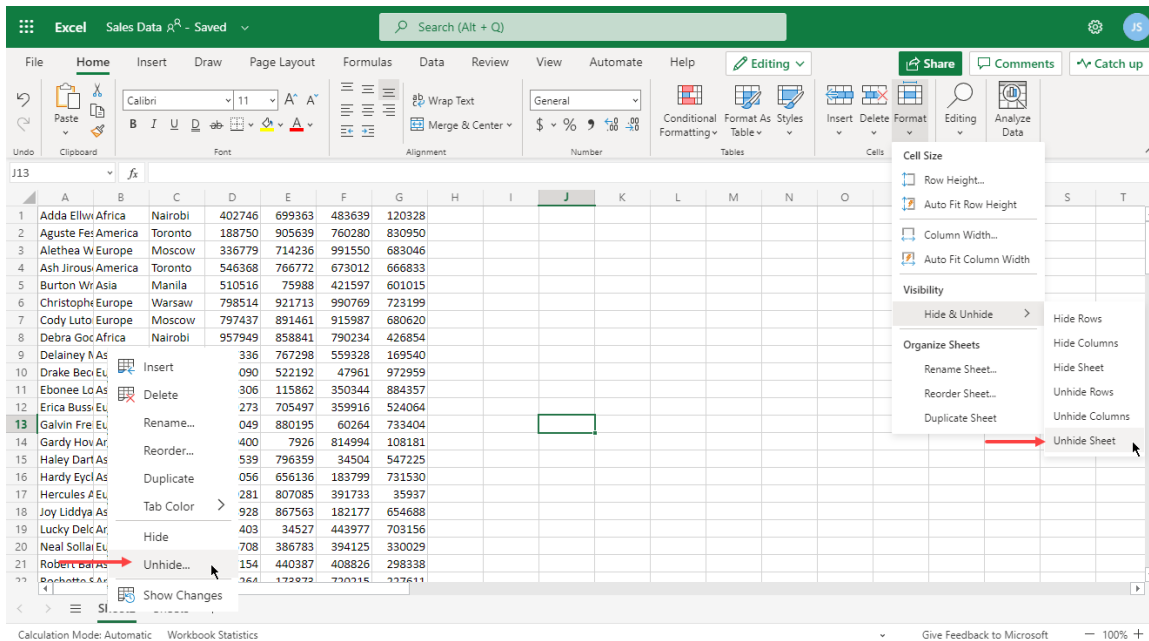
If you are working with a workbook that includes a lot of worksheets, it can quickly become cluttered. To focus on the worksheets that matter, you can choose to hide selected worksheets. Hidden worksheets are not deleted and still operate normally; they are just hidden from view.

To hide the currently active worksheet, click **Home** → **Format** → **Hide & Unhide** → **Hide Sheet**, or right-click the tab and click **Hide**:

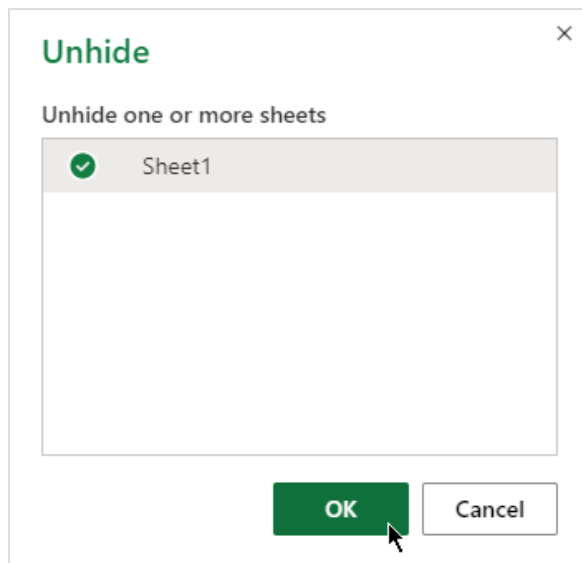


Once a worksheet has been hidden, you will no longer be able to see or select its worksheet tab.

To unhide a worksheet, click **Home** → **Format** → **Hide & Unhide** → **Unhide Sheet**, or click the **Unhide** command on any tab's right-click menu:



The Unhide dialog box will open. Click to select the sheet that you would like to unhide and then click **OK**:



The sheet will now be visible, and its tab will be displayed in its previous position.

Reordering Worksheets

The quickest way to reposition a worksheet is to click and drag the worksheet tab:

10	Delainey Mont	Asia	Manila	567336	767298	559328
11	Drake Becom	Europe	Warsaw	716090	522192	47961
12	Ebonee Louch	Asia	Bangkok	366306	115862	350344
13	Erica Busse	Europe	Moscow	159273	705497	359916
14	Galvin Freiberg	Europe	Warsaw	235049	880195	60264
15	Gardy Howsley	America	Toronto	730400	7926	814994
16	Haley Dartan	Asia	Manila	929539	796359	34504
17	Hardy Eyckel	Asia	Bangkok	838056	656136	183799
18	Hercules Almon	Europe	Lisbon	420281	807085	391733

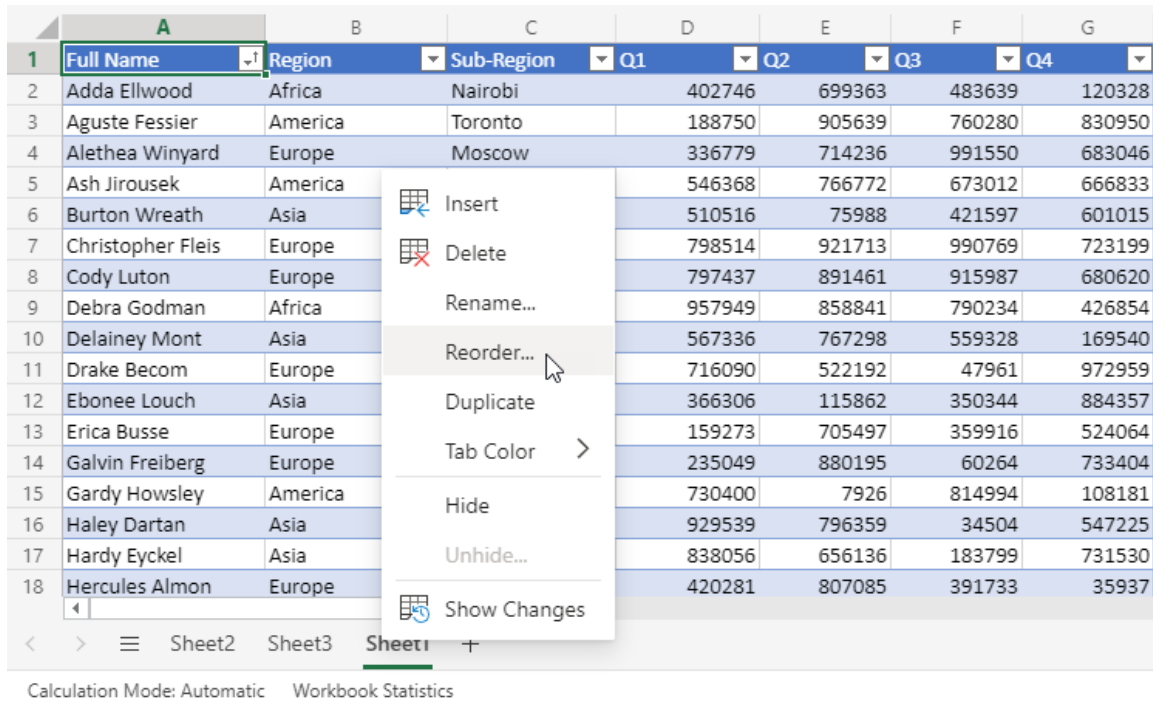
< > ≡ Sheet2 Sheet3 **Sheet1** +
 Calculation Mode: Automatic Workbook Statistics

Once your mouse is in position, release your mouse button to complete the operation:

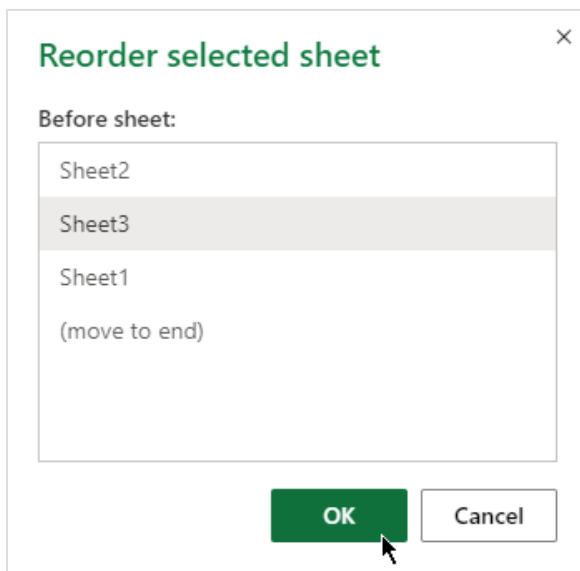
10	Delainey Mont	Asia	Manila	567336	767298	
11	Drake Becom	Europe	Warsaw	716090	522192	
12	Ebonee Louch	Asia	Bangkok	366306	115862	
13	Erica Busse	Europe	Moscow	159273	705497	
14	Galvin Freiberg	Europe	Warsaw	235049	880195	
15	Gardy Howsley	America	Toronto	730400	7926	
16	Haley Dartan	Asia	Manila	929539	796359	
17	Hardy Eyckel	Asia	Bangkok	838056	656136	
18	Hercules Almon	Europe	Lisbon	420281	807085	

< > ≡ Sheet2 Sheet3 **Sheet1** +
 Calculation Mode: Automatic Workbook Statistics

You can also right-click the worksheet tab and click **Reorder**:



With either command, the **Move selected sheet** dialog box will open. Choose the sheet before which you want to place the selected sheet, and click **OK**:



The worksheet will now be moved:

10	Delainey Mont	Asia	Manila	567336	767298	559328
11	Drake Becom	Europe	Warsaw	716090	522192	47961
12	Ebonee Louch	Asia	Bangkok	366306	115862	350344
13	Erica Busse	Europe	Moscow	159273	705497	359916
14	Galvin Freiberg	Europe	Warsaw	235049	880195	60264
15	Gardy Howsley	America	Toronto	730400	7926	814994
16	Haley Dartan	Asia	Manila	929539	796359	34504
17	Hardy Eyckel	Asia	Bangkok	838056	656136	183799
18	Hercules Almon	Europe	Lisbon	420281	807085	391733

Sheet2 Sheet1 Sheet3

Calculation Mode: Automatic Workbook Statistics

Renaming Worksheet Tabs

To rename a worksheet tab, right-click it and click **Rename** (or simply double-click it):

	A	B	C	D	E	F	G
1	Full Name	Region	Sub-Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	Africa	Nairobi	402746	699363	483639	120328
3	Aguste Fessier	America	Toronto	188750	905639	760280	830950
4	Alethea Winyard	Europe	Moscow	336779	714236	991550	683046
5	Ash Jirousek	Am		546368	766772	673012	666833
6	Burton Wreath	As		510516	75988	421597	601015
7	Christopher Fleis	Eu		798514	921713	990769	723199
8	Cody Luton	Eu		797437	891461	915987	680620
9	Debra Godman	Afri		957949	858841	790234	426854
10	Delainey Mont	As		567336	767298	559328	169540
11	Drake Becom	Eu		716090	522192	47961	972959
12	Ebonee Louch	As		366306	115862	350344	884357
13	Erica Busse	Eu		159273	705497	359916	524064
14	Galvin Freiberg	Eu		235049	880195	60264	733404
15	Gardy Howsley	An		730400	7926	814994	108181
16	Haley Dartan	As		929539	796359	34504	547225
17	Hardy Eyckel	As		838056	656136	183799	731530
18	Hercules Almon	Eu		420281	807085	391733	35937

Sheet2 Sh

Calculation Mode: Automatic Workbook Statistics

The Rename Sheet dialog box will open. Enter the new name and click **OK**:

Rename Sheet ×

Rename sheet to:

Sales by Region

OK
Cancel

The change will be applied:

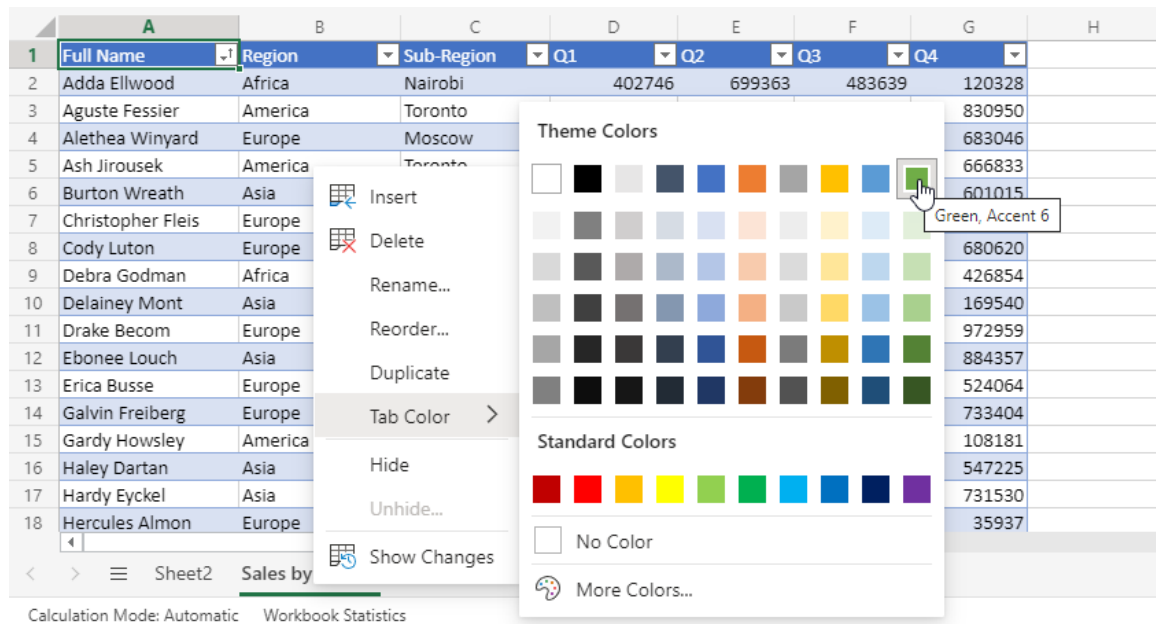
10	Delainey Mont	Asia	Manila	567336	767298
11	Drake Becom	Europe	Warsaw	716090	522192
12	Ebonee Louch	Asia	Bangkok	366306	115862
13	Erica Busse	Europe	Moscow	159273	705497
14	Galvin Freiberg	Europe	Warsaw	235049	880195
15	Gardy Howsley	America	Toronto	730400	7926
16	Haley Dartan	Asia	Manila	929539	796359
17	Hardy Eyckel	Asia	Bangkok	838056	656136
18	Hercules Almon	Europe	Lisbon	420281	807085

◀
▶
☰
Sheet2
Sales by Region
Sheet3
+

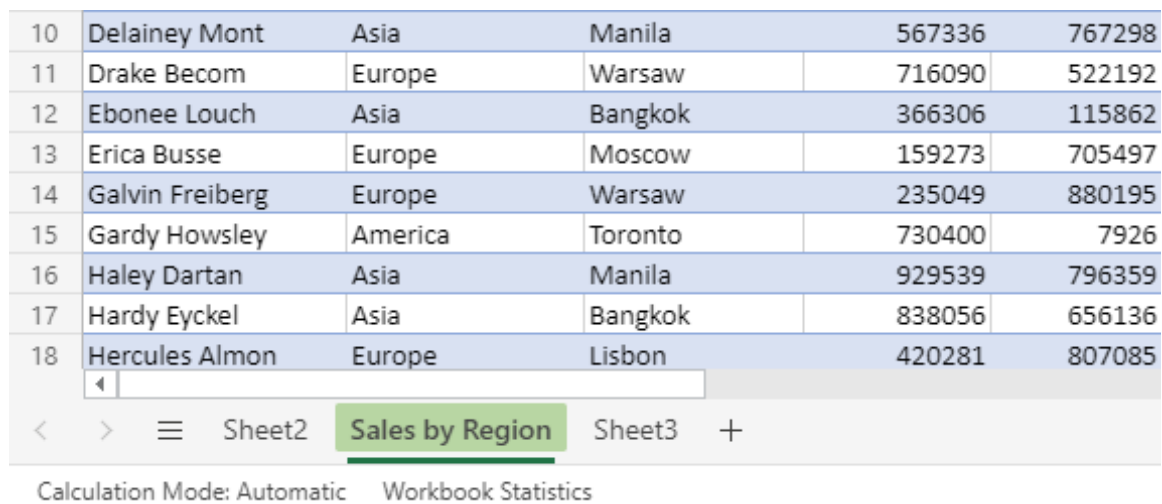
Calculation Mode: Automatic Workbook Statistics

Changing Tab Color

To change the color of a worksheet tab, right-click the tab, click **Tab Color**, and choose the desired color:



The new color will now be applied:



To remove the color, choose **No Color** from the **Tab Color** menu.

Activity 7-3: Managing Worksheets (Part Two)

In this activity, you will finish setting up your financial data workbook structure.

1. To begin, open Microsoft Edge, log into Office 365, and open Activity 7-3 from OneDrive.
2. First, let's ensure all the worksheets are properly named. Double-click the first worksheet tab (**Sheet1**):

	A	B	C	D	E	F	G
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795
11	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673
13	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872
15	Mittenlane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144
16	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734
17	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168

Worksheet tabs: Sheet1, Financial Data (2), Sheet2, Financial Data

3. The worksheet will be displayed, and the Rename Sheet dialog box will open. Type, "PivotTable" and click **OK**:

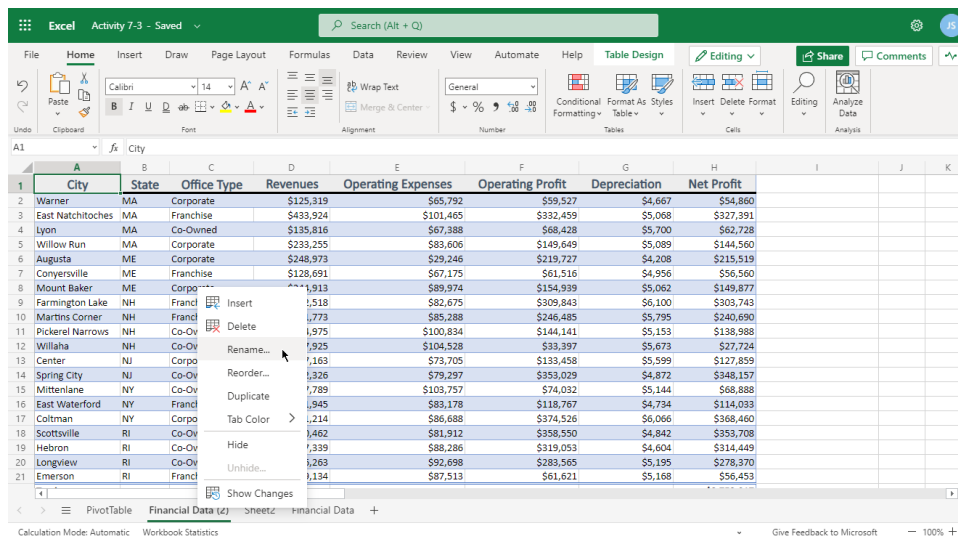
Rename Sheet ✕

Rename sheet to:

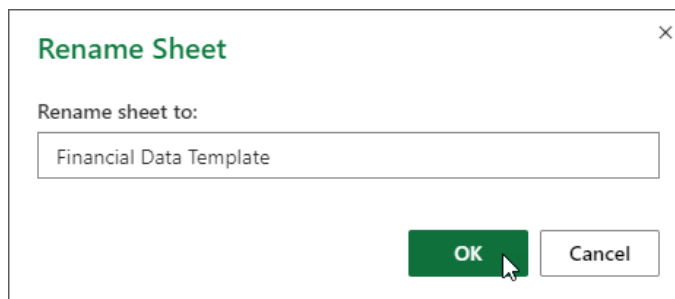
PivotTable

OK
Cancel

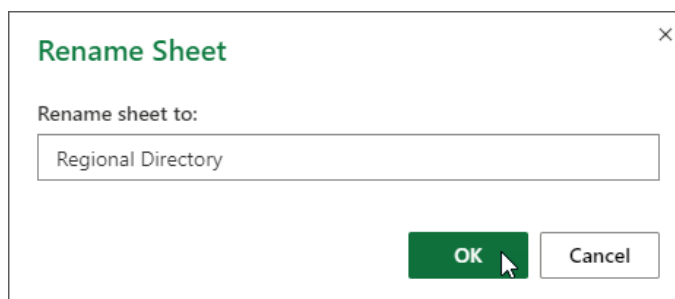
4. The worksheet will be renamed. Now, right-click the **Financial Data (2)** tab and click **Rename**:



5. The Rename Sheet dialog box will open. Delete “(2)” from the text field and type “Template”. Click **OK**:



6. The worksheet will now be renamed. Finally, open the **Rename Sheet** dialog box for Sheet2 by double-clicking its tab or using the right-click menu. When the Rename Sheet dialog box opens, enter “**Regional Directory**” for the name and click **OK**:



- Now that the sheets are renamed, let's update the order. Drag the **Financial Data** tab to the second position in the list:

	A	B	C	D	E
1	City	State	Office Type	Revenues	Operating Expenses
2	Warner	MA	Corporate	\$125,319	\$65,792
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465
4	Lyon	MA	Co-Owned	\$135,816	\$67,388
5	Willow Run	MA	Corporate	\$233,255	\$83,606
6	Augusta	ME	Corporate	\$248,973	\$29,246
7	Conyersville	ME	Franchise	\$128,691	\$67,175
8	Mount Baker	ME	Corporate	\$244,913	\$89,974
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675
10	Martins Corner	NH	Franchise	\$331,773	\$85,288
11	Pickrel Narrows	NH	Co-Owned	\$244,975	\$100,834
12	Willaha	NH	Co-Owned	\$137,925	\$104,528
13	Center	NJ	Corporate	\$207,163	\$73,705
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297
15	Mittenlane	NY	Co-Owned	\$177,789	\$103,757
16	East Waterford	NY	Franchise	\$201,945	\$83,178
17	Coltman	NY	Corporate	\$461,214	\$86,688
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912

Navigation: < > ≡ PivotTable **Financial Data** Financial Data Template Regional Directory +

Calculation Mode: Automatic Workbook Statistics

- Let's update its color, too, since it is the most important sheet in the workbook. Right-click the Financial Data worksheet tab, click **Tab Color**, and choose any shade of green or blue:

The screenshot shows the Excel interface with the 'Financial Data' tab selected. The 'Tab Color' menu is open, showing a grid of color options. A green color is highlighted, labeled 'Green, Accent 6'. The background shows a detailed financial table with columns for City, State, Office Type, Revenues, Operating Expenses, Operating Profit, Depreciation, and Net Profit.

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickrel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
15	Mittenlane	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
16	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$319,053	\$4,604	\$314,449		
20	Longview	RI	Co-Owned	\$283,565	\$5,195	\$278,370		
21	Emerson	RI	Franchise	\$61,621	\$5,168	\$56,453		

Navigation: < > ≡ PivotTable **Financial Data** Financial Data Template Regional Directory +

Calculation Mode: Automatic Workbook Statistics

9. The change will be applied:

10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485
11	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397
13	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029
15	Mittenlane	NY	Co-Owned	\$177,789	\$103,757	\$74,032
16	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767
17	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526
18	Scottsville	RI	Co-Owned	\$410,462	\$81,912	\$328,550

< > ≡ PivotTable **Financial Data** Financial Data Template Regional Directory +
 Calculation Mode: Automatic Workbook Statistics

10. Close the Excel browser tab to complete this activity.

TOPIC D: Changing View Options

If you have used the desktop version of Microsoft Excel, you probably know that there are many ways to customize the view of each workbook. Although Excel Online's options are more limited, they can be useful in your day-to-day work.

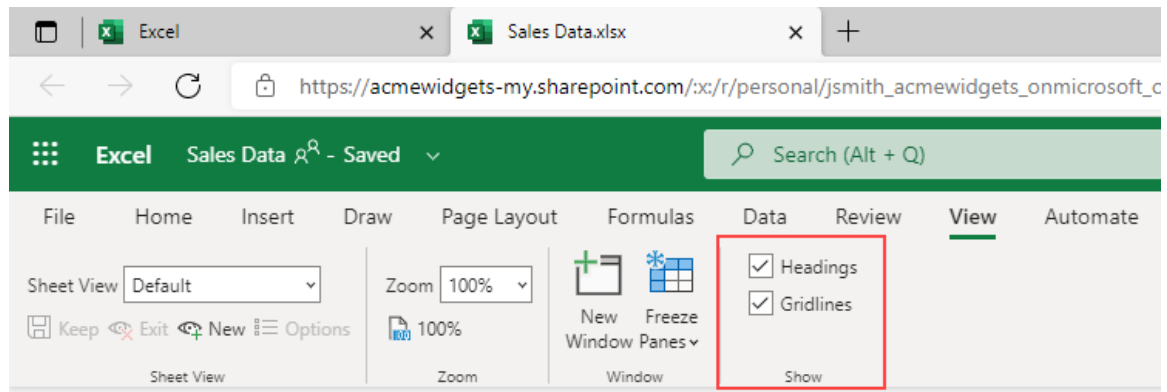
Topic Objectives

In this session, you will learn how to:

- Show and hide workbook elements
- Freeze and unfreeze panes

Showing and Hiding Workbook Elements

Open the **View** tab, and locate the **Show** group:

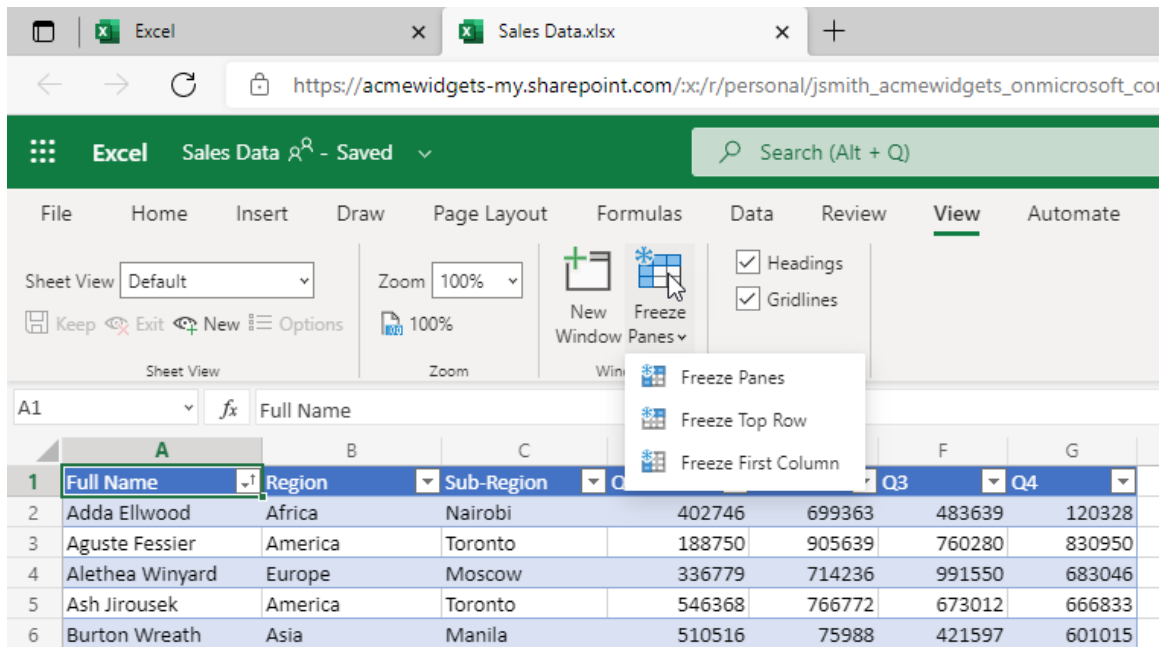


This group allows you to show or hide different workbook elements by toggling the related icon on or off.

The Freeze Panes Options

It is sometimes convenient to be able to keep an eye on one part of a spreadsheet while simultaneously viewing other parts of the same spreadsheet. You can do this using the **Freeze** feature.

To use **Freeze**, open a workbook window and click **View** → **Freeze Panes**:



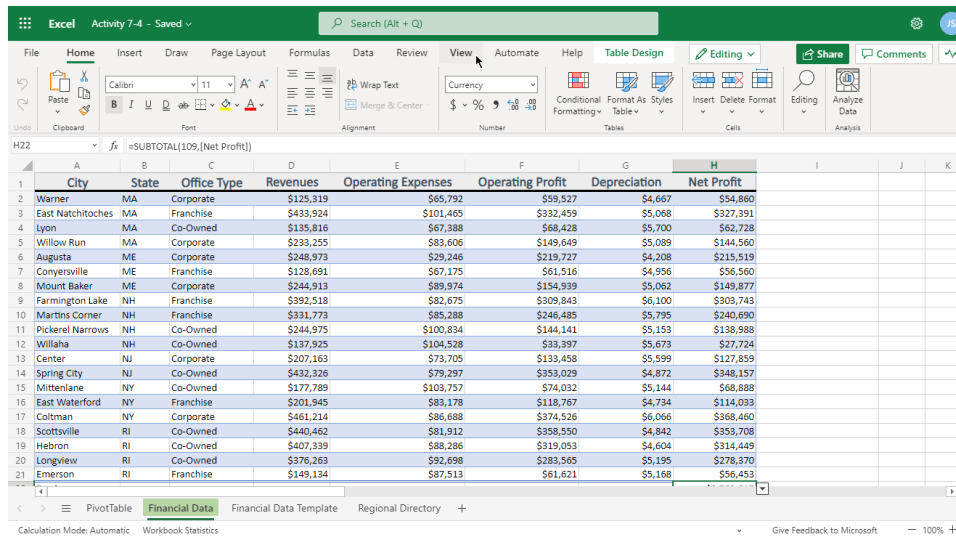
The following options will be displayed:

Freeze Panes	If you select cells before clicking this option, everything to the left of and above the selection will remain frozen.
Freeze Top Row	This will freeze the top row. Use this option to keep column headings visible while scrolling vertically through the data.
Freeze First Column	This will freeze the first column. Use this option to keep row headings visible while scrolling horizontally through the data.

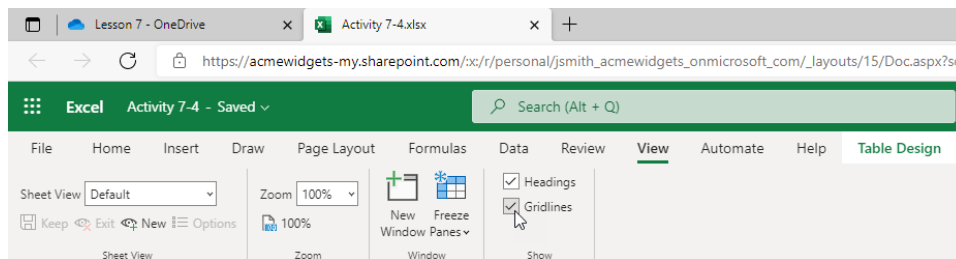
Activity 7-4: Changing View Options

In this activity, we will explore the view options in Excel Online.

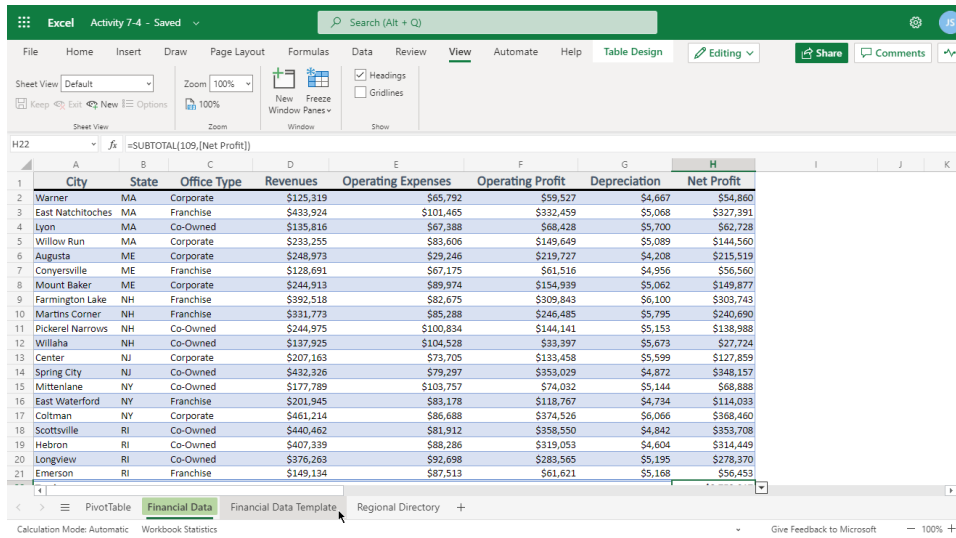
1. To begin, open Microsoft Edge, log into Office 365, and open Activity 7-4 from OneDrive.
2. Let's explore some view options. Click the **View** tab:



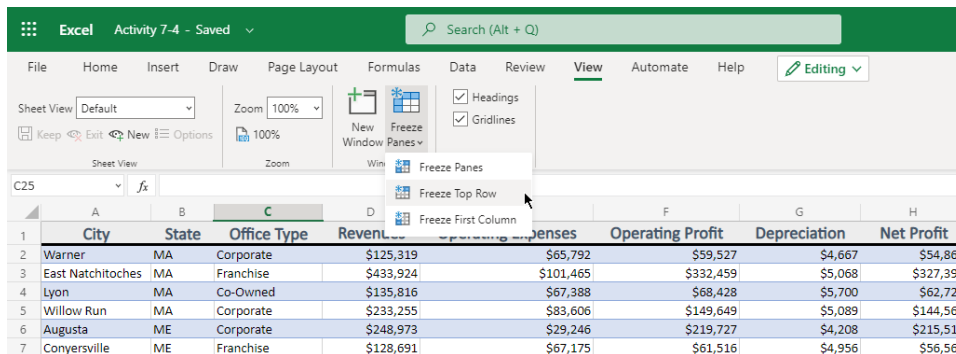
3. Since our Financial Data worksheet is complete, let's turn off the gridlines by unchecking that box:



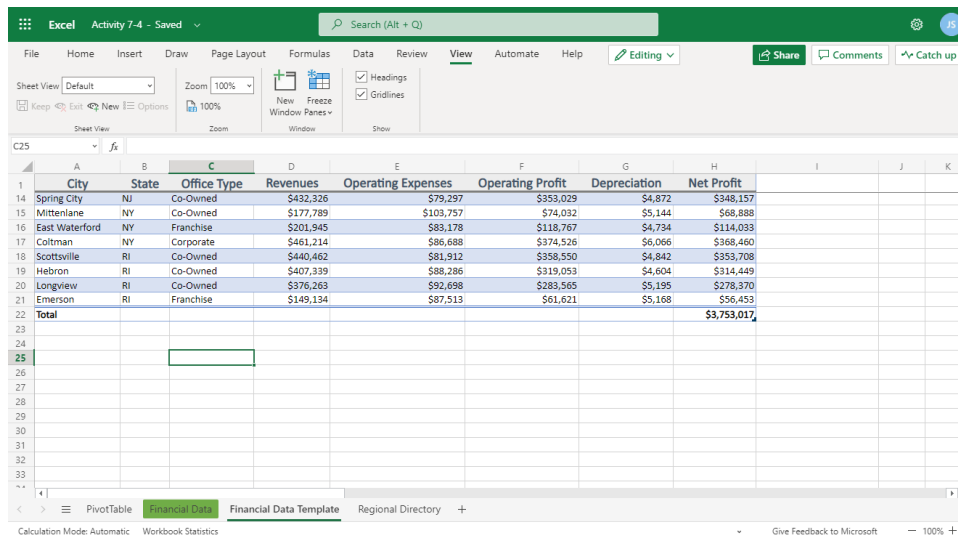
4. Review the changes. Now, switch to the **Financial Data Template** sheet:



5. Notice that the gridlines are still visible here. However, we want to freeze the header row on this sheet as more data may be added to future reports. Click **Freeze Panes** → **Freeze Top Row**:



6. Scroll down in the workbook. Notice that the first row remains in place:



7. Close the Excel browser tab to complete this activity.

Summary

In this lesson, we learned about finalizing workbooks. You should now be able to use comments, manage worksheets, and change view options.


Review Questions

- 1. What is the easiest way to create a copy of a worksheet?**
- 2. How do you add a comment to a cell?**
- 3. What does the Freeze Panes command do?**
- 4. What is the format of formula references to other worksheets?**
- 5. How do you clear the color from a worksheet tab?**

LESSON LABS


Lesson 1

Lesson Lab 1-1


Objective	To set up a sales report workbook.
Briefing	Before you start working on the data in a sales report, you want to make sure it is accessible and print a hard copy.
Task	<ul style="list-style-type: none">• Open the Sample Data file from OneDrive in Excel Online.• Run the Accessibility Checker and resolve any issues.• If you have a printer, print a copy of the workbook. (If you do not have a printer, you can skip this step.)
Hints	If you cannot remember where to find a feature, or are not sure how to do something, consult Excel's Help articles.
Sample Data	 Lesson Lab 1-1.xlsx

Lesson 2

Lesson Lab 2-1


Objective	To add formulas to the sales report.
Briefing	You need to organize the sales data by region, and calculate totals and key metrics.
Task	<ul style="list-style-type: none">• Add a formula in cells E4 to E27 to calculate the profit for each store. (to do this, you will need to subtract expenses from sales.)• Sort the Sales Overview data by region.• Use copy and paste to enter the five regions in Column I, starting at I4.• Create a formula to calculate the average for each region.
Hints	Remember, there are a few different ways to create formulas.
Sample Data	 Lesson Lab 2-1.xlsx

Lesson Lab 2-2

Objective	To improve the formatting in the sales data worksheet.
Briefing	You want to use the tools you learned about in this lesson to improve the appearance of your sales data worksheet.
Task	<ul style="list-style-type: none">• Resize all columns on both sheets to fit their contents.• Move the Average Profit section to Sheet2.
Sample Data	 Lesson Lab 2-2.xlsx

Lesson 3

Lesson Lab 3-1

Objective	To continue improving the formatting in the sales data worksheet.
Briefing	You want to apply a proper format to the number values in the worksheet. You also want to apply borders to differentiate the regions.
Task	<ul style="list-style-type: none">• Apply the Currency number format to the Sales, Expenses, Profits, and Average values in the workbook. (Remember that there are two worksheets.) Do not include decimal places.• Use a bottom border to separate the five regions on Sheet1.
Hints	You may need to re-adjust the column size after applying the number format.
Sample Data	 Lesson Lab 3-1.xlsx

Lesson Lab 3-2

Objective To format the titles and header rows in your sales workbook.

Briefing You have ideas for making the Sample Data workbook even easier to read.

Task Format the titles and header rows on both worksheets of the Sample Data file. Use font formatting, borders, and/or fills to make them stand out.

Then, apply conditional formatting to Sheet1 to highlight any profits under \$500,000. Use any formatting you like.


Hints Use the Format Painter to speed up this task.

Sample Data




Lesson Lab 3-2.xlsx

Lesson Lab 3-3

Objective	To update a workbook using Find and Replace.
Briefing	You have been informed that this workbook is using the wrong terminology to describe its sales districts.
Task	<ul style="list-style-type: none">• Replace the term “Central” with “Main”.• Replace the term “Region” with “District”.
Hints	Make sure to search in the entire workbook.
Sample Data	 Lesson Lab 3-3.xlsx

Lesson 4

Lesson Lab 4-1

Objective	To practice adding shapes to an Excel worksheet.
Briefing	Your manager wants to be able to quickly see which store has the highest profit.
Task	Add a star next to the highest profit on Sheet1. Format it to match the worksheet.
Hints	Use the Insert tab to create shapes and the Shape tab to format them.
Sample Data	 Lesson Lab 4-1.xlsx
Follow-Up Question	Is there a function you could use to quickly find the highest number?

Lesson Lab 4-2

- Objective** To enhance your workbook with pictures.
- Briefing** You have received three pictures from the marketing team. You want to add two of these pictures to your workbook.
- Task** Review the three Sample Data pictures. Add one picture to each sheet in the Sample Data file. Crop, resize, and move it to an appropriate location.
- Hints** The pictures will need to be uploaded from your PC.

Sample Data



Lesson Lab 4-2.xlsx



Picture 1
PNG File
17.2 KB




Picture 2
PNG File
12.1 KB



Picture 3
PNG File
65.3 KB

Lesson 5

Lesson Lab 5-1

Objective	To use tables to prepare for data analysis.
Briefing	After learning about tables, you realize how helpful they would be in your sales report.
Task	Convert the data on Sheet1 of the Sample Data file to a table. Enable both the header and total row.
Hints	Both the Home and Insert tabs have commands to format a range as a table.
Sample Data	 Lesson Lab 5-1.xlsx
Follow-Up Question	If necessary, resize columns and reposition worksheet elements (like pictures and shapes) after creating the table.

Lesson Lab 5-2

Objective To practice creating and modifying charts.

Briefing You have decided to add a chart to show the data on Sheet2.

- Task**
- Review the chart types available in Excel Online. Then, choose an appropriate type for the data on Sheet2.
 - Ensure your chart has a legend and a vertical axis title.
 - Explore other elements, such as labels and data tables, and add at least one item.
 - Delete the picture and move the chart to its position.
 - Resize the chart if necessary.


Hints The **Chart** tab will be useful for these tasks.

Sample Data

 Lesson Lab 5-2.xlsx


Lesson 6

Lesson Lab 6-1


Objective	To practice using PivotTables.
Briefing	Your manager has asked to see the average sales, expenses, and profits by district. You think a PivotTable is the best way to show this.
Task	Create a PivotTable on a new worksheet using the data from Sheet1. Set up the fields so the PivotTable shows the average sales, expenses, and profits by district. Apply the Currency number format to the results.
Hints	Additional tips to make the task easier for students.
Sample Data	 Lesson Lab 6-1.xlsx
Follow-Up Question	Try filtering out the Main region and observe the result.

Lesson 7

Lesson Lab 7-1

Objective	To organize the worksheets in the Sample Data file.
Briefing	You would like to organize the worksheets in the sales data workbook.
Task	<ul style="list-style-type: none">• Give each sheet an appropriate name and a different color.• Move the Average Profit worksheet to the beginning of the tabs list, and the PivotTable worksheet to the end.• Ensure gridlines are displayed on all tabs.
Hints	Remember that there are multiple ways to manage worksheets, including the worksheet tab right-click menu and the Home → Format menu.
Sample Data	 Lesson Lab 7-1.xlsx

Lesson Lab 7-2

Objective	To clarify items in a worksheet using comments.
Briefing	You are ready to submit your sales data report to your manager. You want to add comments to a few items in your workbook before doing so.
Task	<p>Add the following comments to the Sample Data file:</p> <ul style="list-style-type: none">• Average Profit sheet, cell B3: <i>“Data is linked to the Q1 Sales Overview (Data) sheet.”</i>• Q1 Sales Overview (Data) sheet, cell E3: <i>“Profits under \$500,000 are highlighted in red using conditional formatting.”</i>• Q1 Sales Overview (Data) sheet, cell E28: <i>“This total can be toggled on or off by clicking Home → Format as Table → Toggle Total Row.”</i>• Q1 Sales Overview (Data) sheet, cell J2: <i>“Image provided by marketing team.”</i>• Q1 Sales Overview (PivotTable) sheet, cell A3: <i>“Main District filtered out per accounting team. Click Row Labels → Clear Filter from District to view.”</i> <p>Then, show the Comments pane to review all of your comments.</p>
Hints	You will find comment-related commands on the Review tab.
Sample Data	 Lesson Lab 7-2.xlsx
Follow-Up Question	Delete the comment from cell E28 of the Q1 Sales Overview (Data) sheet.

COURSE WRAP-UP

Post-Course Assessment

1. The term _____ describes a vertical series of cells.
 - a. Workbook
 - b. Worksheet
 - c. Column
 - d. Row
 - e. Formula

2. The term _____ describes a horizontal series of cells.
 - a. Workbook
 - b. Worksheet
 - c. Column
 - d. Row
 - e. Formula

3. How do you open the Insert Function dialog box? (Select all that apply.)
 - a. Click **Insert** → **Function**
 - b. Click the **Insert Function** button on the formula bar
 - c. Use the **Alt + F** shortcut
 - d. Click **Data** → **Functions**

4. How do you refresh PivotTable data?

- a. Click **PivotTable** → **Refresh**
- b. Use the **F5** shortcut
- c. Click **Data** → **Refresh PivotTable**
- d. Right-click the PivotTable and click **Refresh**

5. How do you turn a table's header row on or off?

- a. Convert the table to a PivotTable
- b. Click **Home** → **Format as Table** → **Toggle Header Row**
- c. Hide the header row
- d. All of the above

6. What types of graphics can you add to an Excel Online workbook? (Select all that apply.)

- a. Pictures from your computer
- b. Pictures from the internet
- c. Shapes
- d. Emojis

7. How do you create a new comment?

- a. Click **Review** → **New Comment**
- b. Click **Insert** → **Comment**
- c. Right-click the cell and click **Insert Comment**
- d. All of the above

8. Formulas always start with what symbol?

- a. /
- b. =
- c. \
- d. :

9. Which command sequence allows you to create a custom number format?

- a. **Insert → Custom Format**
- b. **Home → Number Format → More Number Formats**
- c. **Data → Create Number Format**
- d. Excel Online does not support custom number formats

10. How do you change what data is displayed in a chart?

- a. Click **Chart → Select Data**
- b. Right-click the chart and click **Select Data**
- c. When the chart is selected, use the handles to modify the data selection
- d. You must delete and re-create the chart

Course Summary

Congratulations on completing Microsoft Excel Online training. During this course, you learned how to:

- Get started with Excel Online and describe its basic components
- Manage workbooks
- Get help in Excel Online
- Use formulas and functions
- Work with data, rows, and columns
- Sort and filter data
- Format text and cells
- Align cell contents
- Use Find & Select tools
- Apply conditional formatting
- Insert pictures and shapes
- Format shapes
- Create and modify tables and charts
- Insert and use PivotTables
- Sort and filter PivotTable data
- Use comments
- Manage worksheets
- Change view options

You should now feel comfortable creating a new spreadsheet, working with basic formulas and functions, and making a spreadsheet look professional and presentable.

ANSWER KEYS

Lesson 1 Review Questions

1. Where can Excel Online open documents from?

Excel Online can open documents from Microsoft Cloud locations, such as OneDrive or SharePoint.

2. What commands opens a menu that allows you to search for help articles in Excel Online?

Help articles can be searched and accessed in the help menu, which is opened by clicking **Help** under the **Help** tab.

3. In Excel, what is a column and a row?

In Excel, the term column describes a vertical series of adjacent cells, while a row is a horizontal series of cells.

4. True or False: Since Excel is a cloud-based application, you cannot save workbooks offline.

This statement is false. You can access other save options by clicking **File** → **Save As**.

5. How are cells typically referenced in Excel?

By combining the column letter and the row number (ex. A1).

Lesson 2 Review Questions

1. List one way to open the Insert Function dialog box.

Click the **Insert** tab and click **Function**, or click the **Insert Function** button on the formula bar.

2. How do you enable filtering?

Click **Home** → **Sort and Filter** → **Filter**.

3. How is Flash Fill different from AutoFill?

AutoFill places data based on a pattern, while Flash Fill automatically extracts or combines data.

4. In this equation, which operation will be evaluated first ? $(5*10)+40/3$

The expression in the parentheses $(5*10)$, will be evaluated first.

5. What is the easiest way to completely clear a cell using the ribbon interface?

Click **Home** → **Clear** → **Clear All**.

Lesson 3 Review Questions

1. What does the Format Painter do?

The Format Painter allows you to copy formatting from one part of your workbook to another.

2. Formulas always start with what symbol?

Formulas always start with the equals sign (=).

3. When you select a range of data, where are automatic calculations displayed?

Automatic calculations are displayed in the Status Bar.

4. What commands are available on the Home → Merge & Center dropdown menu?

The **Merge & Center** dropdown menu includes the **Merge Across**, **Merge Cells**, and **Unmerge Cells** commands.

5. True or False: Cell references are case-sensitive.

False

Lesson 4 Review Questions

1. What types of pictures can you insert in an Excel Online workbook?

In Excel Online, you can only insert pictures from your computer.

2. Which contextual tab provides shape formatting commands?

The **Shape** tab.

3. What does the Alt Text command for shapes and pictures do?

Allows you to assign text to an object that can be used by screen readers to describe a picture to users with visual impairments.

4. How do you resize a picture?

Click it to select it. Then, click and drag any of the handles to resize the photo in that direction.

5. How do you change a shape's type?

Click the shape to select it. Then, click **Shape → Change Shape**, and choose the new shape type.

Lesson 5 Review Questions

1. **What is the command sequence to format data as a table?**

Click **Home** → **Format as Table** or **Insert** → **Table**.

2. **What is a chart's vertical axis also known as?**

The Y axis.

3. **How do you turn a table's total row on or off?**

Click **Home** → **Format as Table** → **Toggle Total Row**.

4. **How do you move a chart?**

Click and drag it.

5. **How do you add a title to a chart?**

Click **Chart** → **Chart Title**, and choose the desired position.

Lesson 6 Review Questions

1. How do you create a PivotTable?

Select the range of data on which you want to base the table and then click **Insert** → **PivotTable**.

2. What contextual tabs are available when working with PivotTables?

Excel Online does not have any contextual PivotTable tabs.

3. How do you refresh PivotTable data?

Right-click the PivotTable and click **Refresh**.

4. How do you change the type of calculation performed on PivotTable values?

Click the dropdown arrow next to the field in the **Values** area of the PivotTable Fields task pane and click **Value Field Settings**. You can then choose the new calculation on the **Summarize Value By** tab.

5. How do you sort PivotTable data?

Click the **Row Labels** or **Column Labels** dropdown arrow, choose the field you want to sort by, and choose the desired sort type.

Lesson 7 Review Questions

1. What is the easiest way to create a copy of a worksheet?

Right-click its tab and click **Duplicate**.

2. How do you add a comment to a cell?

Select the cell you want to comment on. Then, click **Insert** → **Comment**, or use the **Insert Comment** command on the right-click menu.

3. What does the Freeze Panes command do?

Freezes everything to the left of and above the selection.

4. What is the format of formula references to other worksheets?

'Sheet_Name'!, followed by the cell or cell range.

5. How do you clear the color from a worksheet tab?

Right-click the tab, click **Tab Color**, and click **No Color**.

Post-Course Assessment

1. The term _____ describes a vertical series of cells.

- a. Workbook
- b. Worksheet
- c. Column
- d. Row
- e. Formula

The term “column” describes a vertical series of cells.

2. The term _____ describes a horizontal series of cells.

- a. Workbook
- b. Worksheet
- c. Column
- d. Row
- e. Formula

The term “row” describes a horizontal series of cells.

3. How do you open the Insert Function dialog box? (Select all that apply.)

- a. Click **Insert → Function**
- b. Click the **Insert Function** button on the formula bar
- c. Use the **Alt + F** shortcut
- d. Click **Data → Functions**

To open the Insert Function dialog box, click **Insert → Function** or the **Insert Function** button on the formula bar.

4. How do you refresh PivotTable data?

- a. Click **PivotTable** → **Refresh**
- b. Use the **F5** shortcut
- c. Click **Data** → **Refresh PivotTable**
- d. Right-click the PivotTable and click **Refresh**

To refresh PivotTable data, right-click it and click Refresh.

5. How do you turn a table's header row on or off?

- a. Convert the table to a PivotTable
- b. Click **Home** → **Format as Table** → **Toggle Header Row**
- c. Hide the header row
- d. All of the above

To turn a table's header row on or off, click **Home** → **Format as Table** → **Toggle Header Row**.

6. What types of graphics can you add to an Excel Online workbook? (Select all that apply.)

- a. Pictures from your computer
- b. Pictures from the internet
- c. Shapes
- d. Emojis

As of this writing, Excel Online supports pictures from your computer and shapes.

7. How do you create a new comment?

- a. Click Review → New Comment
- b. Click Insert → Comment
- c. Right-click the cell and click Insert Comment
- d. All of the above**

These are all ways to create a new comment.

8. Formulas always start with what symbol?

- a. /
- b. =**
- c. \
- d. :

Formulas always start with the equals sign (=).

9. Which command sequence allows you to create a custom number format?

- a. Insert → Custom Format
- b. Home → Number Format → More Number Formats**
- c. Data → Create Number Format
- d. Excel Online does not support custom number formats

To create a custom number format, click **Home → Number Format → More Number Formats**.

10. How do you change what data is displayed in a chart?

- a. Click **Chart → Select Data**
- b. Right-click the chart and click **Select Data**
- c. When the chart is selected, use the handles to modify the data selection
- d. You must delete and re-create the chart

The Select Data dialog allows you to change what data is displayed in a chart. To open it, click **Chart → Select Data**.

APPENDICES

Keyboard Shortcut Quick Reference Sheet

Editing Commands	Cut	Ctrl + X
	Copy	Ctrl + C
	Paste	Ctrl + V
	Undo	Ctrl + Z
	Redo	Ctrl + Y
	Start a new line in the same cell	Alt + Enter
	Print worksheet	Ctrl + P
Select Commands	Select a range of cells	Shift + Arrow keys
	Select a column	Ctrl + Spacebar
	Select a row	Shift + Spacebar
	Open the Find dialog	Ctrl + F
	Open the Replace dialog	Ctrl + H
	Open the Go To dialog	Ctrl + G

Formatting Commands	Apply bold	Ctrl + B
	Apply italics	Ctrl + I
	Apply underlining	Ctrl + U
	Increase font size	Ctrl + Shift + >
	Decrease font size	Ctrl + Shift + <
	Clear formatting	Ctrl + D
Navigation Commands	Move up one cell	Up arrow / Shift+ Enter
	Move down one cell	Down arrow / Enter
	Move right one cell	Right arrow / Tab
	Move left one cell	Left arrow / Shift + Tab
	Go to the beginning of the row	Home
	Go to cell A1	Ctrl + Home
	Go to the last cell of used range	Ctrl + End
	Move down one screen (28 rows)	Page Down
	Move up one screen (28 rows)	Page Up
	Move to the edge of the current data region	Ctrl + Right arrow / Ctrl + Left arrow
	Switch to next sheet	Alt + Ctrl + Page Down
	Switch to previous sheet	Alt + Ctrl + Page Up

Insert Commands	Insert new worksheet	Shift + F11
	Insert hyperlink	Ctrl + K
	Follow hyperlink	Ctrl + Enter
	Insert table	Ctrl + L
	Open/close Comments pane	Shift + F2
Calculate Data	Calculate workbook (refresh data)	F9
	Insert AutoSum function	Alt + Equals (=)
	Open Insert Function dialog box	Shift + F3

Glossary

Absolute reference

A type of reference that will not change even if it is moved or copied to another location.

Arguments

Data used by functions to complete calculations.

AutoFill

A feature that is used to automatically fill sequential data into a range of cells.

Cell

The intersection of a row and column on a worksheet.

Charts

Visual representation of numeric data.

Conditional Formatting

Formatting that will highlight cells whose data satisfies certain criteria.

Filtering

Customizing the data view based upon set criteria.

Fill

Formatting that adds background color to cell(s).

Fill handle

The small black box that appears in the bottom right-hand corner of a selected cell or cell range. Used to activate the AutoFill feature.

Flash Fill

Feature that will automatically extract or combine data based on a pattern.

Font

A set of typefaces.

Format Painter

A tool that is used to copy formatting from one selection of text to another.

Formula

A mathematical relationship expressed through symbols.

Formula Bar

A part of the Excel interface that displays the cell name, contents, and/or formulas in a selected cell.

Function

Pre-made operations that are used to perform calculations.

Mixed references

Cell references that include both relative and absolute references.

PivotTable

A data analysis tool that dynamically allows you to pivot columns and rows of raw data without altering it.

Relative reference

A cell reference that will change relative to its positioning in a worksheet.

Spreadsheet

Either a paper or electronic file that is used to store and work with data (mostly numbers) in a tabular fashion.

Table

A dataset that is comprised of rows and columns, but is treated as one object (unlike regular data ranges).

Workbook

An Excel file that stores multiple worksheets.

Worksheet

An electronic spreadsheet.