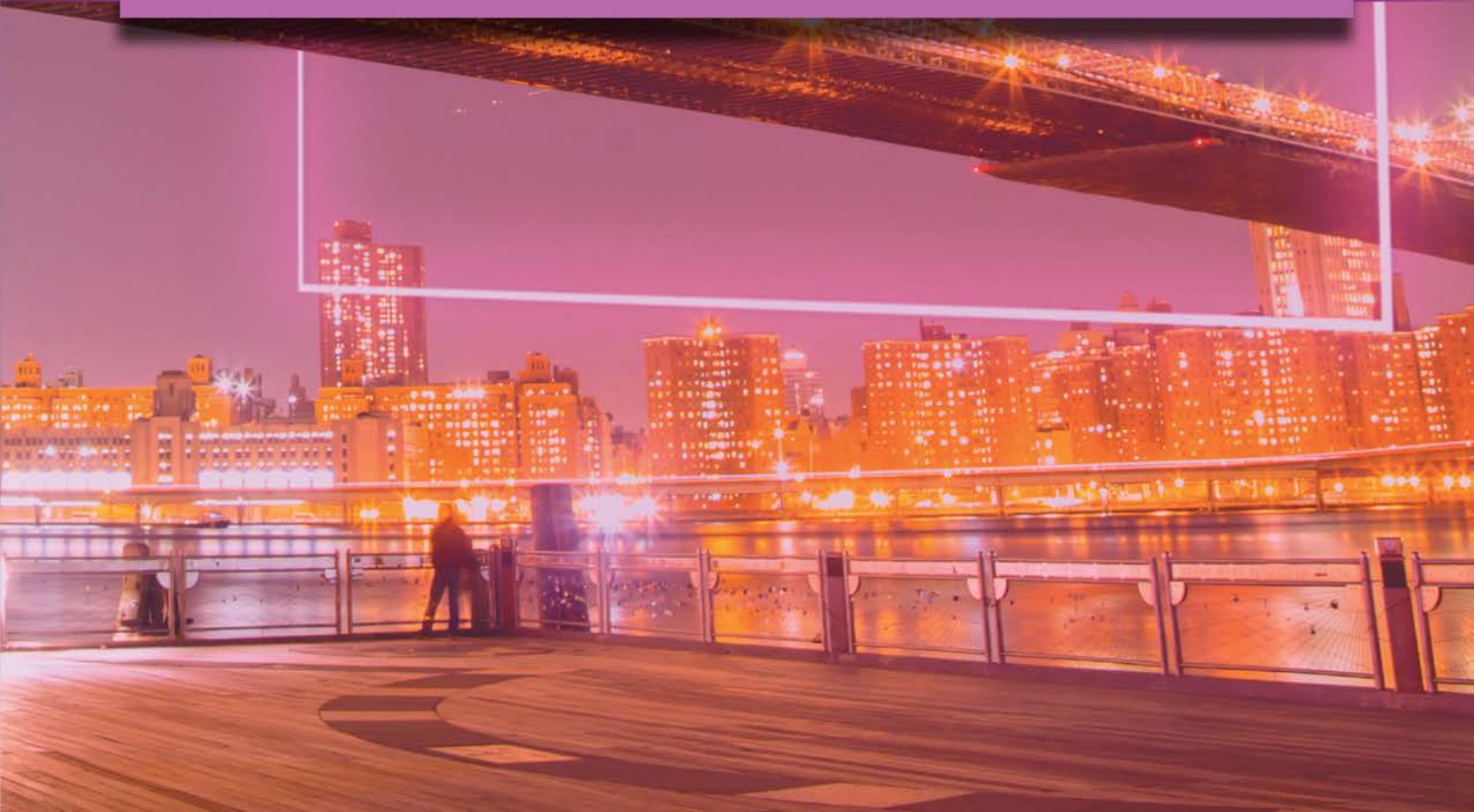


New
Perspectives

Microsoft® Office 365® Excel® 2021

Comprehensive



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Perspectives

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Getting to Know Microsoft Office Versions

Cengage is proud to bring you the next edition of Microsoft Office. This edition was designed to provide a robust learning experience that is not dependent upon a specific version of Office.

Microsoft supports several versions of Office:

- **Office 365:** A cloud-based subscription service that delivers Microsoft's most up-to-date, feature-rich, modern productivity tools direct to your device. There are variations of Office 365 for business, educational, and personal use. Office 365 offers extra online storage and cloud-connected features, as well as updates with the latest features, fixes, and security updates.
- **Office 2021:** Microsoft's "on-premises" version of the Office apps, available for both PCs and Macs, offered as a static, one-time purchase and outside of the subscription model.
- **Office Online:** A free, simplified version of Office web applications (Word, Excel, PowerPoint, and OneNote) that facilitates creating and editing files collaboratively.

Office 365 (the subscription model) and Office 2021 (the one-time purchase model) had only slight differences between them at the time this content was developed. Over time, Office 365's cloud interface will continuously update, offering new application features and functions, while Office 2021 will remain static. Therefore, your onscreen experience may differ from what you see in this product. For example, the more advanced features and functionalities covered in this product may not be available in Office Online or may have updated from what you see in Office 2021.

For more information on the differences between Office 365, Office 2021, and Office Online, please visit the Microsoft Support site.

Cengage is committed to providing high-quality learning solutions for you to gain the knowledge and skills that will empower you throughout your educational and professional careers.

Thank you for using our product, and we look forward to exploring the future of Microsoft Office with you!

Using SAM Projects and Textbook Projects

SAM Projects allow you to actively apply the skills you learned live in Microsoft Word, Excel, PowerPoint, or Access. Become a more productive student and use these skills throughout your career.

To complete SAM Textbook Projects, please follow these steps:

SAM Textbook Projects allow you to complete a project as you follow along with the steps in the textbook. As you read the module, look for icons that indicate when you should download **sam** ↓ your SAM Start file(s) and when to upload **sam** ↑ the final project file to SAM for grading.

Everything you need to complete this project is provided within SAM. You can launch the eBook directly from SAM, which will allow you to take notes, highlight, and create a custom study guide, or you can use a print textbook or your mobile app. Download IOS or Download Android.

To get started, launch your SAM Project assignment from SAM, MindTap, or a link within your LMS.

Step 1: Download Files

- Click the “Download All” button or the individual links to download your **Start File** and **Support File(s)** (when available). You must use the SAM Start file.
- Click the Instructions link to launch the eBook (or use the print textbook or mobile app).
- Disregard any steps in the textbook that ask you to create a new file or to use a file from a location outside of SAM.
- Look for the SAM Download icon **sam** ↓ to begin working with your start file.
- Follow the module’s step-by-step instructions until you reach the SAM Upload icon **sam** ↑.
- Save and close the file.

Step 2: Save Work to SAM

- Ensure you rename your project file to match the Expected File Name.
- Upload your in-progress or completed file to SAM. You can download the file to continue working or submit it for grading in the next step.

Step 3: Submit for Grading

- Upload the completed file to SAM for immediate feedback and to view the available Reports.
 - The **Graded Summary Report** provides a detailed list of project steps, your score, and feedback to aid you in revising and re-submitting the project.
 - The **Study Guide Report** provides your score for each project step and links to the associated training and textbook pages.
- If additional attempts are allowed, use your reports to assist with revising and resubmitting your project.
- To re-submit the project, download the file saved in step 2.
- Edit, save, and close the file, then re-upload and submit it again.

For all other SAM Projects, please follow these steps:

To get started, launch your SAM Project assignment from SAM, MindTap, or a link within your LMS.

Step 1: Download Files

- Click the “Download All” button or the individual links to download your **Instruction File**, **Start File**, and **Support File(s)** (when available). You must use the SAM Start file.
- Open the Instruction file and follow the step-by-step instructions. Ensure you rename your project file to match the Expected File Name (change _1 to _2 at the end of the file name).

Step 2: Save Work to SAM

- Upload your in-progress or completed file to SAM. You can download the file to continue working or submit it for grading in the next step.



Step 3: Submit for Grading

- Upload the completed file to SAM for immediate feedback and to view available Reports.
 - The **Graded Summary Report** provides a detailed list of project steps, your score, and feedback to aid you in revising and resubmitting the project.
 - The **Study Guide Report** provides your score for each project step and links to the associated training and textbook pages.
- If additional attempts are allowed, use your reports to assist with revising and resubmitting your project.
- To re-submit the project, download the file saved in step 2.
- Edit, save, and close the file, then re-upload and submit it again.

For additional tips to successfully complete your SAM Projects, please view our Common Student Errors Infographic.

Objectives

Session 1.1

- Open and close a workbook
- Navigate through a workbook and worksheet
- Select cells and ranges
- Plan and create a workbook
- Insert, rename, and move worksheets
- Enter text, dates, and numbers
- Undo and redo actions
- Resize columns and rows

Session 1.2

- Enter formulas and the SUM and COUNT functions
- Copy and paste formulas
- Move or copy cells and ranges
- Insert and delete rows, columns, and ranges
- Create patterned text with Flash Fill
- Add cell borders and change font size
- Change worksheet views
- Prepare a workbook for printing

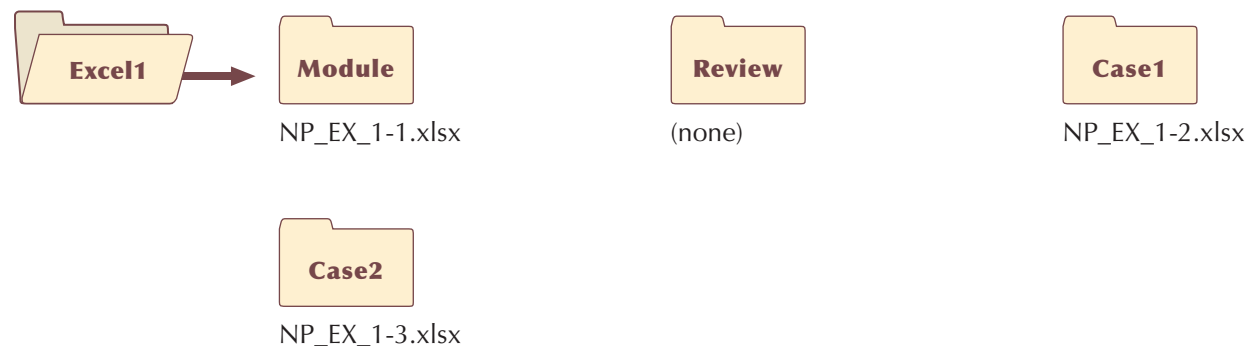
Getting Started with Excel

Tracking Miscellaneous Expenses for a Conference

Case | MedIT

Carmen Estrada is an event coordinator for MedIT, a company that develops information technology for hospitals and clinics. Carmen is planning the upcoming regional conference for MedIT customers and vendors in Boston, Massachusetts. An important aspect of event planning is reviewing budget data and supplying additional expense information for the conference. Carmen wants you to review the conference planning documents and then create a document that she can use to detail miscellaneous expenses for the conference event.

Starting Data Files



Session 1.1 Visual Overview:

The ribbon is organized into tabs. Each **tab** has a group of related commands for particular activities or tasks.

Buttons for related commands are organized on a tab in **groups**.

Excel stores a collection of sheets within a single file called a **workbook**. The name of the current workbook appears in the title bar.

The **ribbon** contains grouped command buttons that you click to interact with Excel and execute commands.

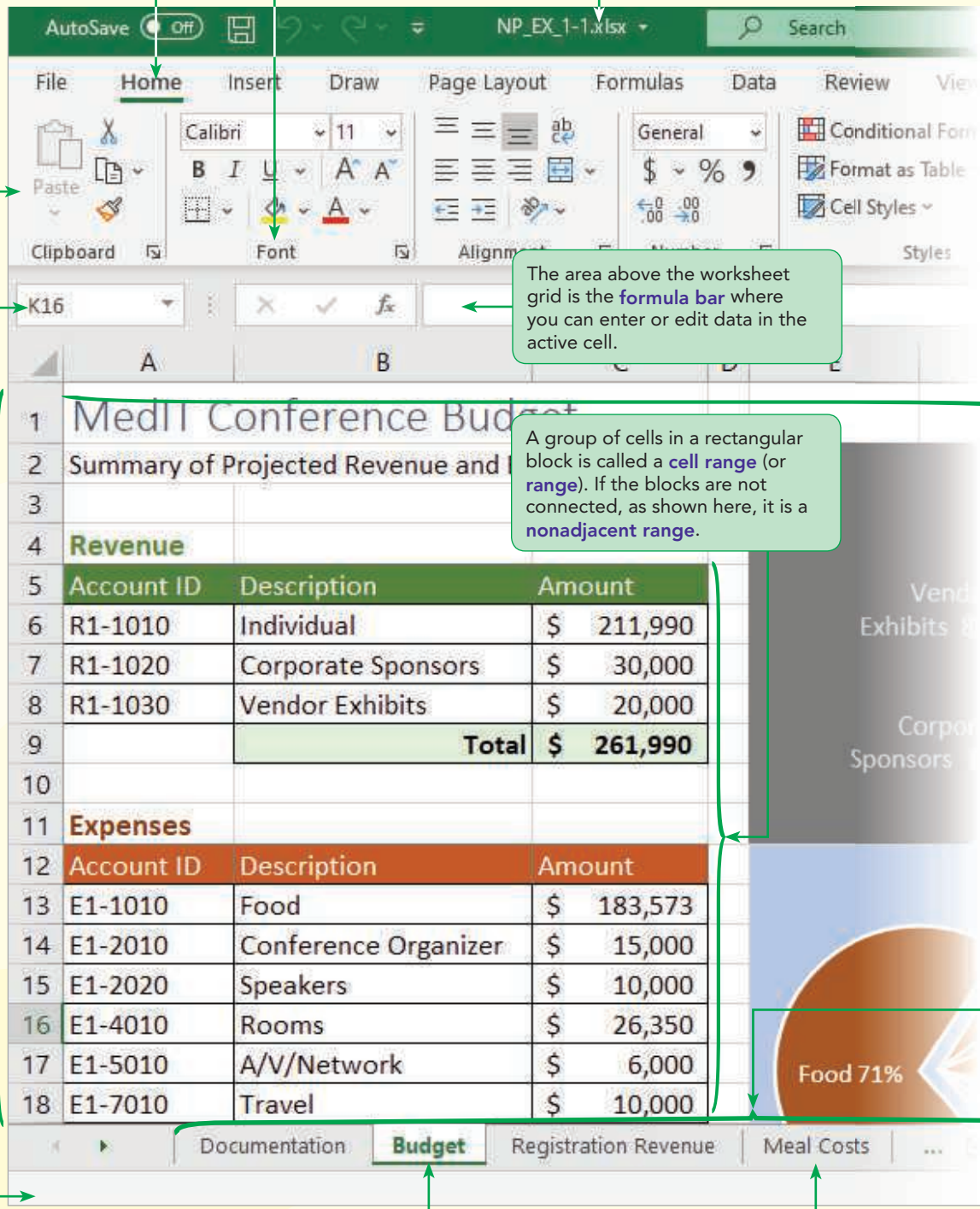
The **Name box** displays the cell reference of the active cell. In this case, the active cell is cell K16.

The area above the worksheet grid is the **formula bar** where you can enter or edit data in the active cell.

A group of cells in a rectangular block is called a **cell range** (or **range**). If the blocks are not connected, as shown here, it is a **nonadjacent range**.

The **row headings** are numbers in boxes along the left side of the workbook window that identify the worksheet rows.

The **status bar** is a bar at the bottom of the Excel window that shows information about the current worksheet as well as view buttons and Zoom controls.



The sheet currently displayed in the workbook window is the **active sheet**. Its sheet tab is underlined, and the sheet name is green and bold.

Inactive sheets are not visible in the workbook window. Their sheet tabs are not underlined, and their sheet names are black.

The Excel Workbook

The **Search box** in the title bar is used to find a command or access the Office Help system.

The **Ribbon Display Options button** is used to hide or show the ribbon and its tabs and commands.

The **Minimize button** reduces a window so that only its program icon is visible on the taskbar.

The **Restore Down button** returns a window to its previous size. If the **Maximize button** appears, it expands the window to fill the entire screen.

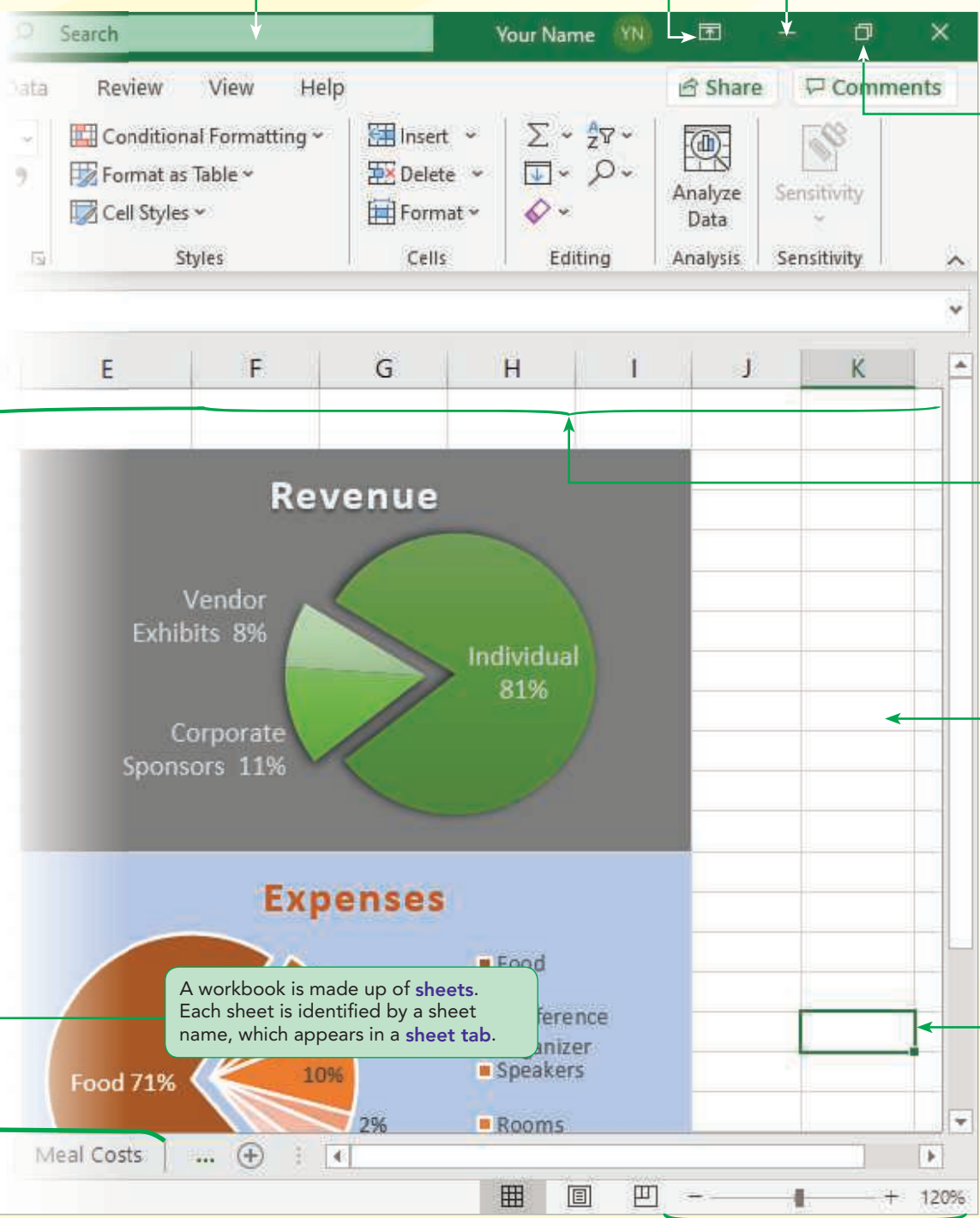
The **column headings** are letters in boxes along the top of the workbook window that identify the worksheet columns.

A single sheet in a workbook file that is laid out in a grid of rows and columns is called a **worksheet**. It appears in the **workbook window**, which displays part of the current sheet.

Each intersection of a row and column forms a box or **cell** where you enter and store data. The currently selected cell in the active worksheet is the **active cell**.

A workbook is made up of **sheets**. Each sheet is identified by a sheet name, which appears in a **sheet tab**.

The **Zoom controls** increase or decrease the magnification of the worksheet content. These modules show worksheets zoomed to 120%.



Introducing Excel and Spreadsheets

Microsoft Excel (or just **Excel**) is a program to record, analyze, and present data arranged in the form of a spreadsheet. A **spreadsheet** is a grouping of text and numbers in a rectangular grid or table. Spreadsheets are often used in business for budgeting, inventory management, and financial reporting because they unite text, numbers, and charts within one document. They can also be employed for personal use in planning a family budget, tracking expenses, or creating a list of personal items. The advantage of an electronic spreadsheet is that the content can be easily edited and updated to reflect changing financial conditions.

To start Excel:


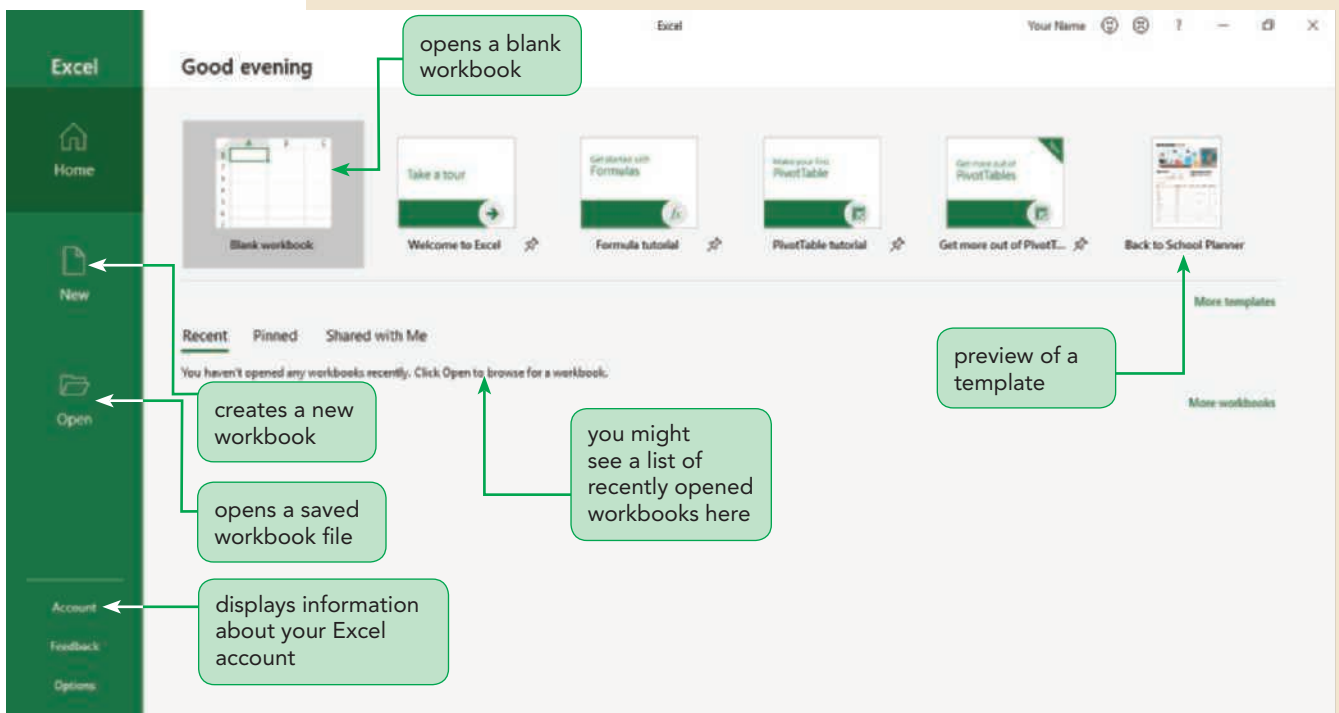
1. On the Windows taskbar, click the **Start** button . The Start menu opens.
2. On the Start menu, scroll through the list of apps, and then click **Excel**. Excel starts in Backstage view. See Figure 1-1.

Figure 1-1

Backstage view



Backstage view, the File tab of the ribbon, contains various screens with commands that allow you to manage files and options for Excel. Excel documents are called workbooks. From Backstage view, you can open a blank workbook, open an existing workbook, or create a new workbook based on a template. A **template** is a preformatted workbook that contains the document design and some content already entered into the document. Templates can speed up the process of creating a workbook because much of the effort in designing the workbook and entering its data and formulas is already done for you.

Carmen created an Excel workbook containing information on the budget for the upcoming Boston conference. You'll open that workbook now.

To open the Conference workbook:


1. In the navigation bar in Backstage view, click **Open**. The Open screen is displayed and provides access to different locations where you might store files.
2. Click **Browse**. The Open dialog box appears.
3. Navigate to the **Excel1 > Module** folder included with your Data Files.

Trouble? If you don't have the starting Data Files, you need to get them before you can proceed. Your instructor will either give you the Data Files or ask you to obtain them from a specified location (such as a network drive). If you have any questions about the Data Files, see your instructor or technical support person for assistance.

4. Click **NP_EX_1-1.xlsx** in the file list to select it.

If your instructor wants you to submit your work as a SAM Project for automatic grading, you must download the Data File in Step 4 from the assignment launch page.

5. Click the **Open** button. The workbook opens in Excel.

Trouble? If you don't see the full ribbon as shown in the Session 1.1 Visual Overview, the ribbon may be partially or fully hidden. To pin the ribbon so that the tabs and groups are fully displayed and remain visible, click the Ribbon Display Options button , and then click Show Tabs and Commands.


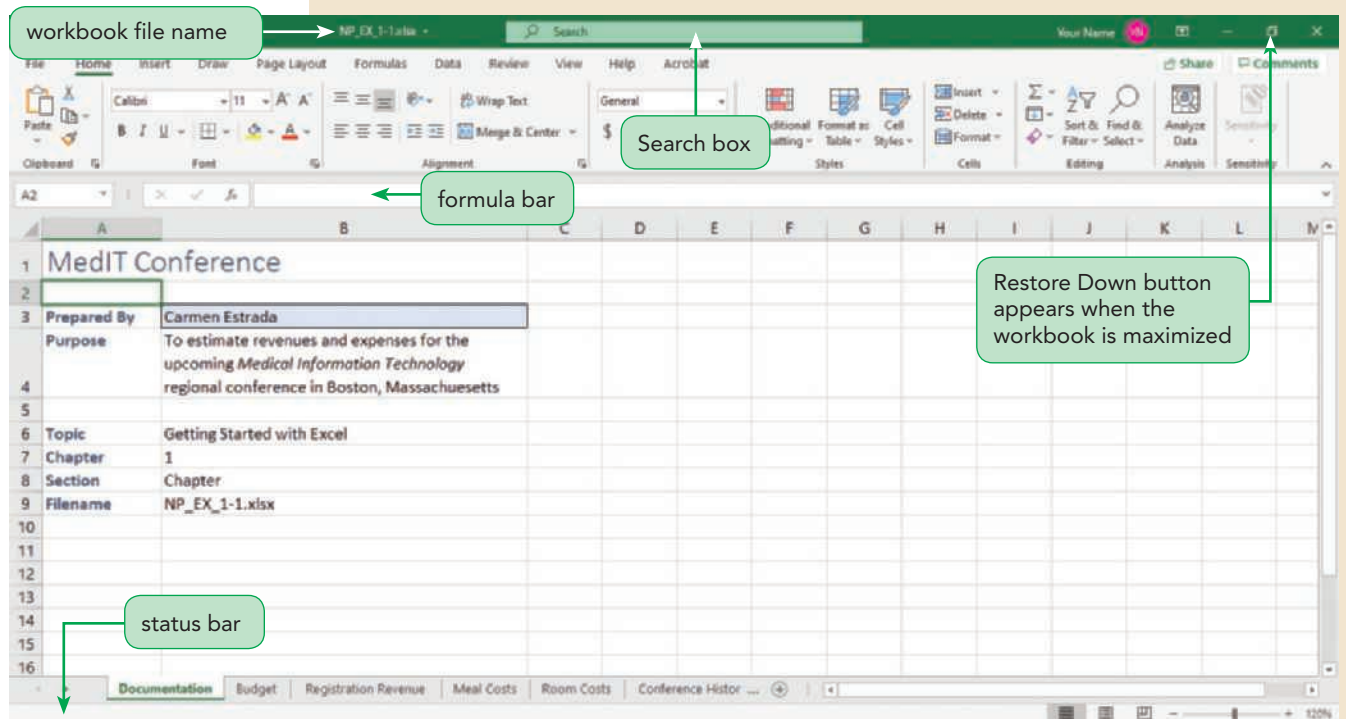
6. If the Excel window doesn't fill the screen, click the **Maximize** button  in the upper-right corner of the title bar. See Figure 1-2.

Figure 1-2 Conference workbook



Before reviewing the contents of this workbook, you first should understand how to work with the Excel interface.

Getting Help

Excel is an extensive and powerful program supporting a wide variety of commands and tools. If you are unsure about the function of an Excel command or you want information about how to accomplish a task, you can use the Help system. To access Excel Help, you press F1. You can also enter a phrase or keyword into the Search box next to the file name in the title bar. From this box, you can get quick access to detailed information on all of the Excel features.

Using Keyboard Shortcuts to Work Faster

There are several ways of accessing an Excel command. Perhaps the most efficient method is entering the command through your device's keyboard through the use of keyboard shortcuts. A **keyboard shortcut** is a key or combination of keys that you press to access a feature or perform a command. Excel provides keyboard shortcuts for many commonly used commands. For example, CTRL+S is the keyboard shortcut for the Save command, which means you hold down CTRL while you press S to save the workbook. (Note that the plus sign is not pressed; it is used to indicate that an additional key is pressed.) When available, a keyboard shortcut is listed next to the command's name in a ScreenTip. A **ScreenTip** is a label that appears next to an object, providing information about that object or giving a link to associated help topics. Figure 1–3 lists some of the keyboard shortcuts commonly used in Excel.

Figure 1–3

Excel keyboard shortcuts

Press	To	Press	To
ALT	Display the Key Tips for the commands and tools on the ribbon	CTRL+V	Paste content that was cut or copied
CTRL+A	Select all objects in a range	CTRL+W	Close the current workbook
CTRL+C	Copy the selected object(s)	CTRL+X	Cut the selected object(s)
CTRL+G	Go to a location in the workbook	CTRL+Y	Repeat the last command
CTRL+N	Open a new blank workbook	CTRL+Z	Undo the last command
CTRL+O	Open a saved workbook file	F1	Open the Excel Help window
CTRL+P	Print the current workbook	F5	Go to a location in the workbook
CTRL+S	Save the current workbook	F12	Save the current workbook with a new name or to a new location


You can also use the keyboard to quickly select commands on the ribbon. First, you display the **KeyTips**, which are labels that appear over each tab and command on the ribbon when ALT is pressed. Then you press the key or keys indicated to access the corresponding tab, command, or button while your hands remain on the keyboard.



Using Excel in Touch Mode

If your computer has a touchscreen, another way to interact with Excel is in **Touch Mode** in which you use your finger or a stylus to tap objects on the touchscreen to invoke a command or tool. In Touch Mode, the ribbon increases in height, the buttons are bigger, and more space appears around each button so you can more easily use your finger or a stylus to tap the button you need.

The figures in these modules show the screen in **Mouse Mode**, in which you use a computer mouse to interact with Excel and invoke commands and tools. If you plan on doing some of your work on a touch device, you'll need to switch between Touch Mode and Mouse Mode. You should turn Touch Mode on only if you are working on a touch device.

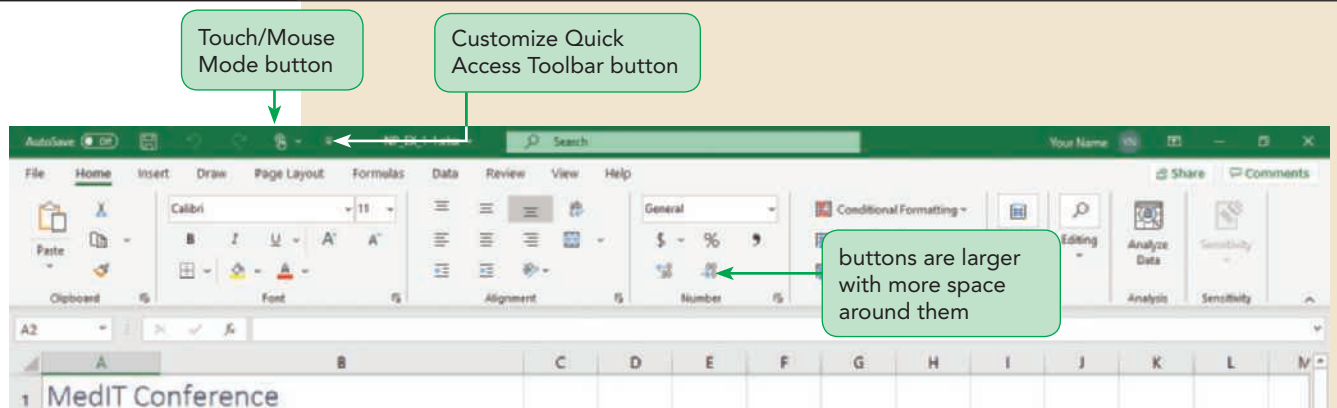
To switch between Touch Mode and Mouse Mode:

1. On the Quick Access Toolbar, click the **Customize Quick Access Toolbar** button . A menu opens, listing buttons you can add to the Quick Access Toolbar as well as other options for customizing the toolbar.



Trouble? If the Touch/Mouse Mode command on the menu has a checkmark next to it, press ESC to close the menu, and then skip Step 2.
2. From the Quick Access Toolbar menu, click **Touch/Mouse Mode**. The Quick Access Toolbar now contains the Touch/Mouse Mode button , which you can use to switch between Mouse Mode and Touch Mode.
3. On the Quick Access Toolbar, click the **Touch/Mouse Mode** button . A menu opens listing Mouse and Touch, and the icon next to Mouse is shaded to indicate that it is selected.

Trouble? If the icon next to Touch is shaded, press ESC to close the menu and continue with Step 5.
4. Click **Touch**. The display switches to Touch Mode with more space between the commands and buttons on the ribbon. See Figure 1-4.

Figure 1-4 Excel displayed in Touch Mode



Next, you will switch back to Mouse Mode. If you are working with a touch-screen and want to use Touch Mode, skip Steps 5 and 6.

5. On the Quick Access Toolbar, click the **Touch/Mouse Mode** button , and then click **Mouse**. The ribbon returns to Mouse Mode, as shown earlier in Figure 1-2.
6. On the Quick Access Toolbar, click the **Customize Quick Access Toolbar** button , and then click **Touch/Mouse Mode** to deselect it. The Touch/Mouse Mode button is removed from the Quick Access Toolbar.

Now that you've seen how to interact with the Excel program, you're ready to explore the workbook that Carmen has prepared.

Exploring a Workbook

The contents of a workbook are shown in the workbook window, which is below the ribbon. Workbooks are organized into separate pages called sheets. Excel supports two types of sheets: worksheets and chart sheets. A worksheet contains a grid of rows and columns into which you can enter text, numbers, dates, and formulas. Worksheets can also contain graphical elements such as charts, maps, and clip art. A **chart sheet** is a sheet that contains only a chart that is linked to data within the workbook. A chart sheet can also contain other graphical elements like clip art, but it doesn't contain a grid for entering data values.

Changing the Active Sheet

Worksheets and chart sheets are identified by the sheet tabs at the bottom of the workbook window. The workbook for the MedIT conference in Boston contains eight sheets labeled Documentation, Budget, Registration Revenue, Meal Costs, Room Costs, Conference History, Budget History, and Registration List. The sheet currently displayed in the workbook window is the active sheet, which in this case is the Documentation sheet. The sheet tab of the active sheet is highlighted, and the sheet tab name appears in bold.

Tip

Some Excel documents have hidden sheets, which are still part of the workbook but do not appear within the workbook window.

If a workbook contains more sheet tabs than can be displayed in the workbook window, the list of tabs will end with an ellipsis (...), indicating the presence of additional sheets. You can use the sheet tab scrolling buttons, located to the left of the sheet tabs, to scroll through the tab list. Scrolling through the sheet tab list does not change the active sheet; it changes only which sheet tabs are visible within the workbook window.

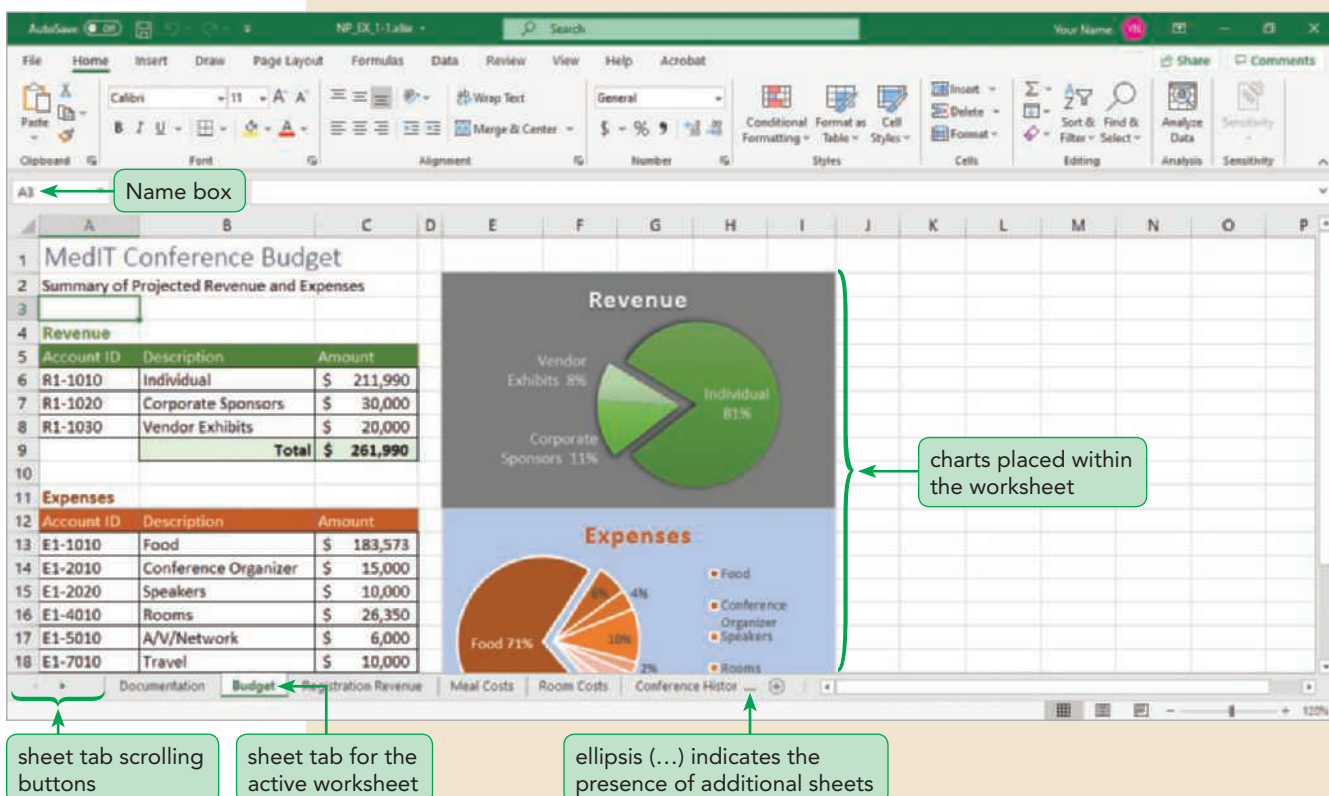
You will view the contents of the Conference workbook by clicking the tabs for each sheet.

To change the active sheet:

1. Click the **Budget** sheet tab. The Budget worksheet becomes the active sheet, and its name is in bold green. See Figure 1-5.

Figure 1-5

Budget worksheet

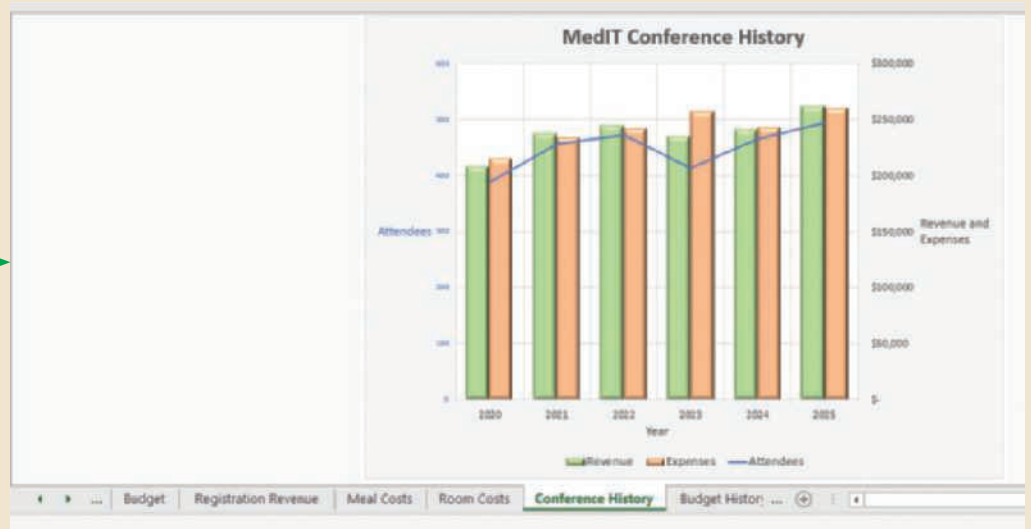


The Budget sheet contains estimates of the conference's revenue and expenses. The sheet also contains charts of the revenue and expense categories. From the charts, it's easily apparent that the major source of revenue for the conference comes from individual registrations and the major expense comes from feeding all the attendees over the three conference days.

2. Click the **Registration Revenue** sheet tab to make it the active sheet. The Registration Revenue tab provides a more detailed breakdown of the revenue estimates for the conference.
3. Click the **Meal Costs**, **Room Costs**, and **Conference History** sheet tabs to view each worksheet. Figure 1-6 shows the contents of the Conference History chart sheet. Because this is a chart sheet, it contains only the Excel chart and not the rows and columns of text and numbers you saw in the worksheets.

Figure 1-6 Conference History chart sheet

chart sheet contains a chart but no grid of text and data



4. Click the **Budget History** and **Registration List** sheet tabs to view the remaining two worksheets in the workbook.

Trouble? If you can't see the sheet tabs for the last few sheets in the workbook, click the sheet tab scrolling buttons to scroll through the tab list.

Now you know how to switch between the eight sheets in the workbook. Next, you will move around the individual worksheets so you can review their contents.

Navigating Within a Worksheet

A worksheet is organized into a grid of cells, which are formed by the intersection of rows and columns. Rows are identified by numbers, and columns are identified by letters. Row numbers range from 1 to 1,048,576. Column labels start with the letters A to Z. After Z, the next column headings are labeled AA, AB, AC, and so forth. The last possible column label is XFD, which means there are 16,384 columns available in a worksheet. The total number of possible cells in a single Excel worksheet is more than 17 billion, providing an extremely large worksheet for reports.



Each cell is identified by a **cell reference**, which indicates the column and row in which the cell is located. For example, as shown in Figure 1–5, the total expected revenue from the conference, \$261,990, is displayed in cell C9. Cell C9 is the intersection of column C and row 9. The column letter always appears before the row number in any cell reference.

The cell that is currently selected in the worksheet is the active cell and has a thick green border. The corresponding column and row headings for the active cell are also highlighted. The cell reference of the active cell appears in the Name box, located just below the left side of the ribbon. The active cell in Figure 1–5 is cell A3.

To move different parts of the worksheet into view, you can use the horizontal and vertical scroll bars located at the bottom and right edges of the workbook window, respectively. A scroll bar has arrow buttons that you can click to shift the worksheet one column or row in that direction, and a scroll box that you can drag to shift the worksheet larger amounts in the direction you choose.

You will scroll the active worksheet so you can review the rest of the Registration List worksheet.

To scroll through the Registration List worksheet:

1. On the Registration List worksheet, click the **down arrow** button  on the vertical scroll bar to scroll down the worksheet until you see row 496 containing the last registration in the list.
2. On the horizontal scroll bar, click the **right arrow** button  three times. The worksheet scrolls three columns to the right, moving columns A through C out of view.
3. On the horizontal scroll bar, drag the **scroll box** to the left until you see column A.
4. On the vertical scroll bar, drag the **scroll box** up until you see the top of the worksheet and cell A1.

Scrolling the worksheet does not change the location of the active cell. Although the active cell might shift out of view, you can always see the location of the active cell in the Name box. To make a different cell active, you can either click a new cell or use keyboard shortcuts to move between cells, as described in Figure 1–7.

Figure 1–7

Excel navigation keyboard shortcuts

Press	To move the active cell
↑↓←→	Up, down, left, or right one cell
HOME	To column A of the current row
CTRL+HOME	To cell A1
CTRL+END	To the last cell in the worksheet that contains data
ENTER	Down one row or to the start of the next row of data
SHIFT+ENTER	Up one row
TAB	One column to the right
SHIFT+TAB	One column to the left
PGUP, PGDN	Up or down one screen
CTRL+PGUP, CTRL+PGDN	To the previous or next sheet in the workbook