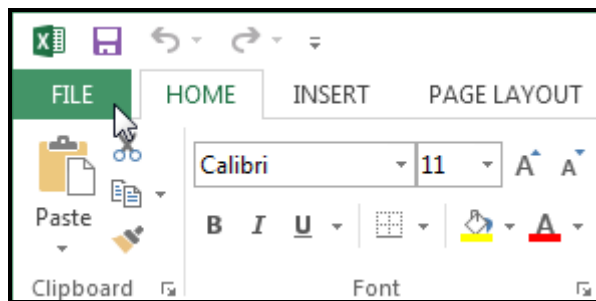


Excel 2013 is an **electronic spreadsheet program** that allows you to **store, organize, and analyze information**. Excel can be used from simple tasks such as creating a shopping list or an invoice/budget to analyzing a complicated data set. **Note:** It is recommended that knowing where these keys are on your keyboard (**Tab, Esc, Ctrl, Enter, Home, End, Backspace, arrow keys, and Number keypads**) will help.

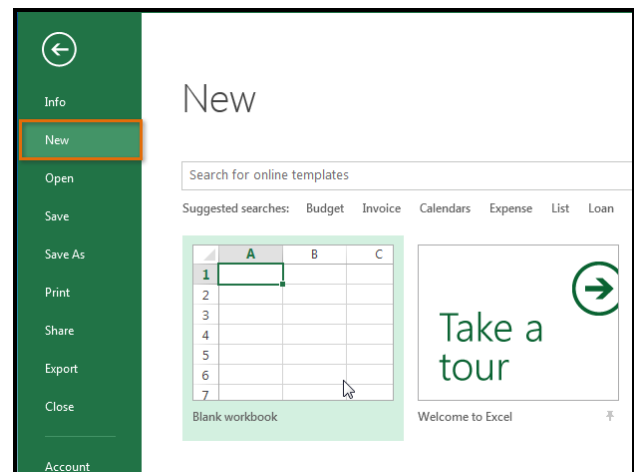
Open a New Workbook:

To create a new, blank workbook:

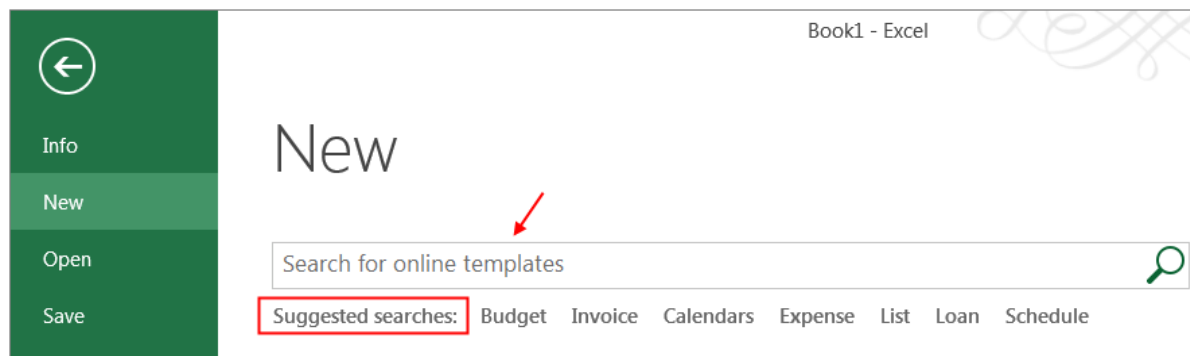
1. Select the **File** tab. **Backstage view** will appear.








2. Select **New**, then click **Blank workbook**.



One can also explore online templates from the Microsoft Online site. A **template** is a predesigned spreadsheet you can use to create a new workbook quickly. Templates often include custom formatting and predefined formulas, so they can save you a lot of time and effort when starting a new project.



Mouse Pointers in Excel

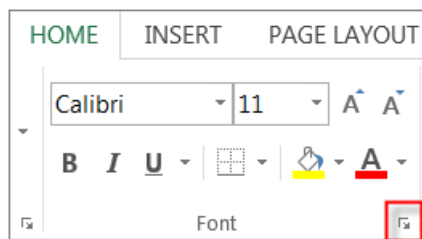
Shape	Implication	Action
	The default pointer shape.	Moves cell pointer or selects a range of cells.
	Appears when the pointer is on a border (column, row, or window). When adjusting row height, the arrows point up and down. When adjusting column width, the arrows point right to left.	Adjusts the column width, row height, or window size.
	Appears when you are editing the contents of a cell.	Moves the insertion point within the cell.
	Appears when you have a graphic that may be moved. This pointer also appears when you point to the border of a cell.	Moves the selected graphic or cell to the new location.
	Appears when you are at the "fill corner" of a cell or range of cells.	AutoFills other cells with similar information.


Definitions:

Workbook - A file in a spreadsheet program.

Worksheet - A smaller section of a workbook file designated by sheet tabs. A workbook can have multiple worksheets.

The Home Tab: The principal commands in Excel are gathered on the first tab, the **Home** tab. The commands on this tab are those that Microsoft has identified as the most commonly used such as paste, cut, and copy when people do basic tasks with worksheets.

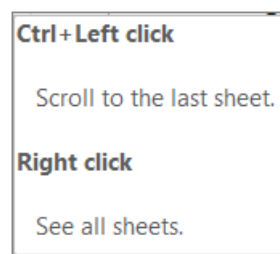


When you see this arrow  (called the Dialog Box Launcher) in the lower-right corner of a group, there are more options available for the group. Click the arrow, and you'll see a dialog box or a task pane.

Sheet Tabs (on the bottom left):

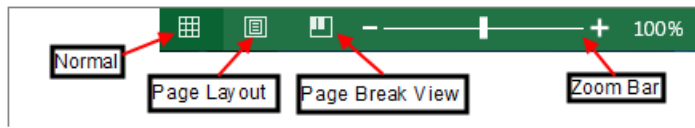


You will also notice a few instant buttons on the bottom of the main screen. For example, a plus sign next to the sheet tabs will insert a new worksheet by one click. The left arrow will navigate among your sheets one sheet to the left one



sheet at a time, while holding down **Control** button and left arrow will take you to the furthest left. Opposite will work for the right arrow key.

By right-clicking in the arrows area, the menu shown on the left will allow you to see all sheets. Then you can select to go directly to the sheet of your choice.

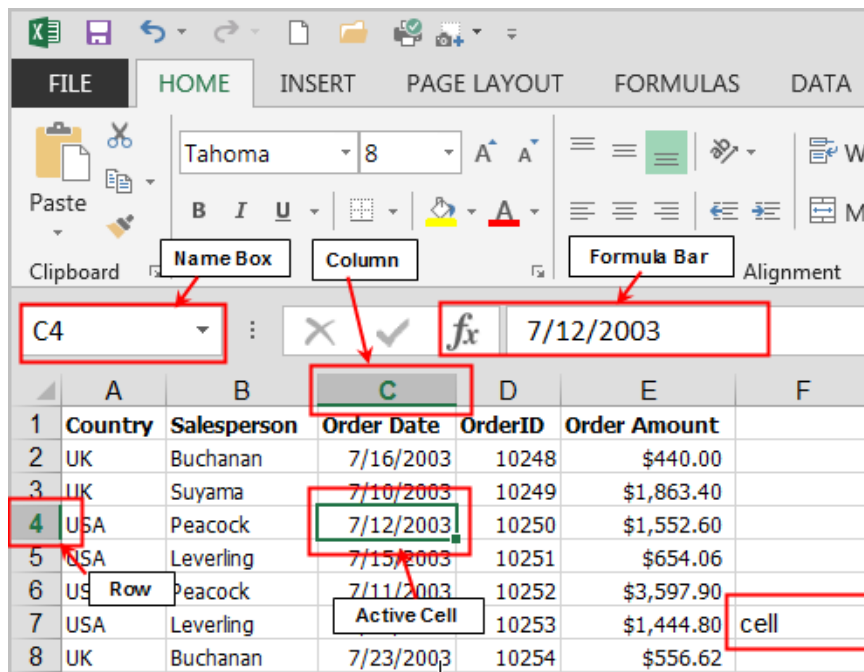


View Buttons (on the bottom right):

There are also buttons to view normal, page layout, or page break views; and to zoom in or out for easy reading.

Exercise: Explore an Existing Workbook

- Open *Source Data* worksheet from *ExcelPart1.xlsx* workbook.
- Explore each tab and command groups under each ribbon
- Explore the Ribbon Display Options
- Explore each worksheet in the workbook
- Add a new worksheet (by clicking on the Plus sign)
- Explore using scrolling arrows to go to different worksheets
- Keep the workbook open



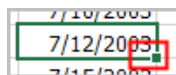
Understanding Cells:

Cell: Every worksheet is made up of thousands of rectangles, which are called **cells**. A **cell** is the intersection of a row and a column. Just click on it to select a cell.

Active Cell: The **active cell** is the cell currently selected with the outline surrounding the cell and in the lower right corner, there will be a **fill handle**. In this example, the **active cell** is Cell B6. The **active cell** can be a blank cell where data will be inputted when a user is typing.

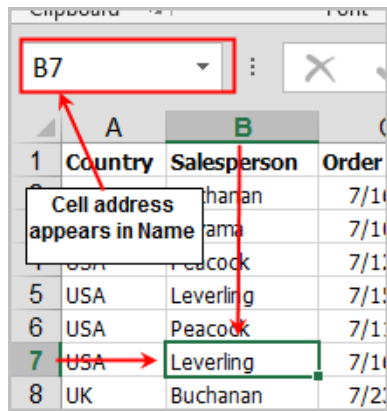
Columns: Columns are identified by letters (A, B, C). There are 16,384 columns in Excel 2013.

Rows: The name assigned to each horizontal line in a spreadsheet. Rows are identified by numbers (1, 2, 3). There are 1,048,576 rows in Excel 2013.




Fill Handle: A special box found in the lower right corner of the active cell or selected area. It can be used as a shortcut to copy data or formulas to adjacent cells or to add lists of pre-set data such as the days of the week or the months of the year to a worksheet.

Formula Bar: The **Formula Bar** shows the cells contents whether it is a mathematical equations used to compute something within the worksheet or a string of text or a fixed number.



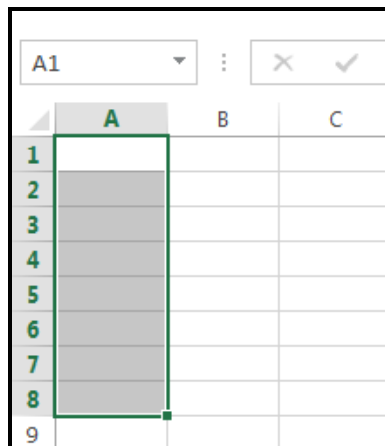
Name Box: cell address appears in the **Name Box**. A user may decide to name a cell or a group of cells (Cell Range) of a spreadsheet. The most useful function of naming cell(s) is to incorporate the name in formulas.

Selecting Multiple Cells: You can also select **multiple cells** at the same time. A group of cells is known as a **cell range**. Rather than a single cell address, you will refer to a cell range using the cell addresses of the **first** and **last** cells in the cell range, separated by a **colon**. For example, a cell range that included cells A1, A2, A3, A4, and A5 would be written as **A1:A5**. Click, hold, and drag the mouse until all of the **adjoining cells** you wish to select are **highlighted**. Release the mouse to **select** the desired cell range. The cells will remain **selected** until you click another cell in the worksheet.

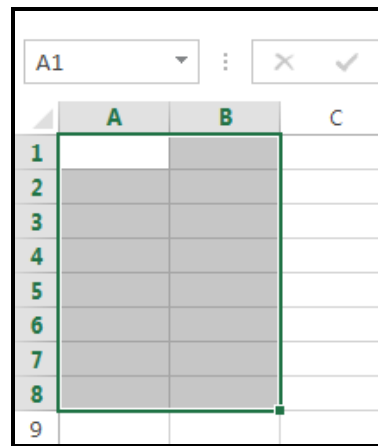
Note: You must have your mouse in this mode  to select multiple cells.

In the images below, two different cell ranges are selected:

- Cell range **A1:A8**

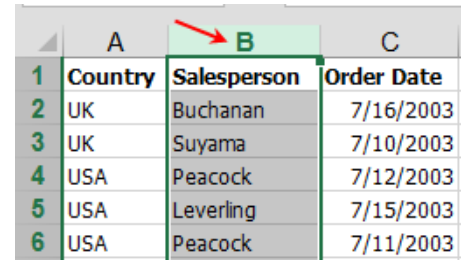


- Cell range **A1:B8**



Selecting Entire Rows or Columns:

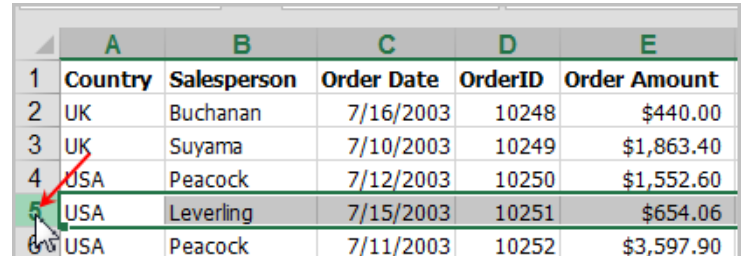
- Click on a column name (A,B,C..) to select an entire column.



A screenshot of an Excel spreadsheet with columns A, B, and C. Column B is highlighted in green, and a red arrow points to the column header 'B'. The data is as follows:

	A	B	C
1	Country	Salesperson	Order Date
2	UK	Buchanan	7/16/2003
3	UK	Suyama	7/10/2003
4	USA	Peacock	7/12/2003
5	USA	Leverling	7/15/2003
6	USA	Peacock	7/11/2003

- Click on a row number (1,2,3..) to select an entire row



A screenshot of an Excel spreadsheet with columns A through E. Row 5 is highlighted in green, and a red arrow points to the row number '5'. The data is as follows:

	A	B	C	D	E
1	Country	Salesperson	Order Date	OrderID	Order Amount
2	UK	Buchanan	7/16/2003	10248	\$440.00
3	UK	Suyama	7/10/2003	10249	\$1,863.40
4	USA	Peacock	7/12/2003	10250	\$1,552.60
5	USA	Leverling	7/15/2003	10251	\$654.06
6	USA	Peacock	7/11/2003	10252	\$3,597.90

Selecting Multiple Columns or Rows:

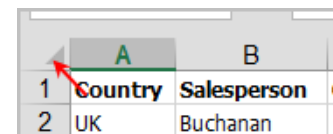
- Using Mouse:* Select an entire column or row first; hold down the left mouse button and drag your mouse to the right to select adjacent columns on the right; to the left to select adjacent columns on the left. Similarly, drag your mouse down to select adjacent rows on the bottom; up to select adjacent rows above.
- Using the Shift Key:* Select an entire column or row first; hold down the **Shift** key; then select the last column or row. Let the **Shift** key go. All the columns or rows between the first and the last column or row of your selection will be selected.

Selecting Specific Columns or Rows:

- Using the Control Key:* Select an entire column or row first; hold down the **Control** key; then click and select any column or row of your choice that may or may not be adjacent to the first one. Once all selected, let the **Control** key go.

Selecting an Entire Worksheet:

- If you want to apply a particular format to the entire worksheet, you can do so by selecting the entire worksheet first. Click on the rectangular area on the top left corner of a worksheet, left of Column A and right above Row 1. See picture. Click again in any cell to *de-select* the entire sheet.



A screenshot of an Excel spreadsheet showing the top-left corner selected. The selection area is highlighted in grey, covering the area from the top-left corner to the right of column A and below row 1. The data is as follows:

	A	B
1	Country	Salesperson
2	UK	Buchanan

Selecting the Active Cell:

Mouse: You can simply point your mouse to the area you want to move the active cell to and press or click the left mouse button.

Keyboard: There are several keyboard combinations that one may use to move the active cell quickly without using the mouse. See below.

- **Enter** - Moves the active cell down one cell and accepts that data entered into the cell.
- **Tab** - Moves the active cell right one cell and accepts that data entered into the cell.
- **Left or Right Arrow** - Moves the active cell one cell at a time, left or right.
- **Up or Down Arrow Keys** – Moves the active cell one cell at a time, up or down.
- **Ctrl + Left or Right Arrow Keys** - Moves the active cell left or right to the beginning or end of an area that contains data. If no data is in a cell then it goes to the first or last column of the worksheet.
- **Ctrl + Up or Down Arrow Keys** - Moves the active cell up or down to the beginning or end of an area that contains data. If no data is in a cell then it goes to the first or last row of the worksheet.
- **Page Down** - Moves the active cell down to the next page of the worksheet.
- **Page Up** - Moves the active cell up to the previous page of the worksheet.
- **Ctrl + Page Down** - Makes the next worksheet active (right).
- **Ctrl + Page Up** - Makes the previous worksheet active (left).
- **Home** - Moves the active cell to column A.
- **Ctrl + Home** - Moves the active cell to cell A1.
- **Ctrl + End** - Moves the active cell to the last cell with data in it.

Exercise: Explore cells in an Existing Workbook

- Use *Source Data* worksheet from *ExcelPart1.xls* workbook.
- Select the cell – B3; hit **Enter** to move your selected cell to B4; hit **Tab** key on your keyboard to move your selected cell to C4; hit **arrow** keys on your keyboard to select different cells.
- Select the cell range - A1:A10; select another cell range – B5:D12.
- Select the entire column B; Select columns B through D either by dragging your mouse or using the **Shift** key; select columns A, C, and E by using the **Control** key.
- Select the entire row 9; Select rows 9 through 15 – by mouse or **shift** key; Select rows 2, 5, and 9 by using the **Control** button.
- Select the cell A4, Do **Control + Right Arrow Key** to select the last data cell (E4) on same row; Do **Control + Down Arrow Key** to select the last data cell (E800) in the same column; Do **Control + Home** to select the first data cell in the sheet (A1); Do **Control + End** to select the last data cell in the sheet (E800).
- Select the entire worksheet “*Source Data*”.
- Do **Control + Page Down** to make the next worksheet (“*Sorted*”) active; Do **Control + Page Up** to make the previous worksheet (“*Source Data*”) active.
- Close the workbook **without** saving.

Cell Content:

Any information you enter into a spreadsheet will be stored in a cell. Each cell can contain several different kinds of content, including text, formatting, formulas, and functions. Text cells can contain text, such as letters, numbers, and dates. Let's follow steps below to practice.

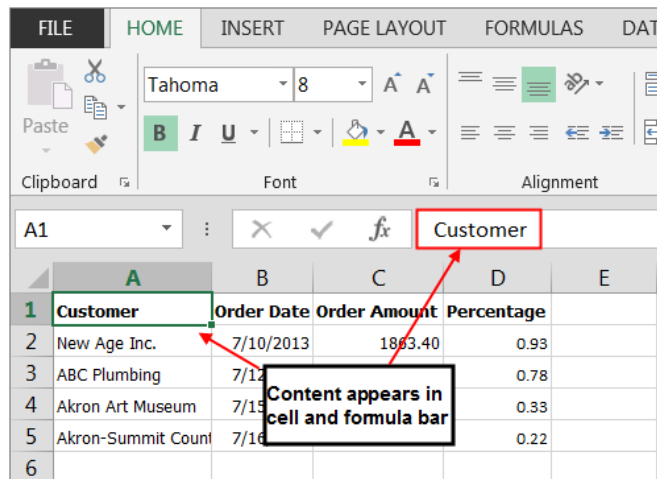
Exercise: Entering Data in a new Workbook and editing cell content

- **Step 1:** Open a new workbook. Type in the information in 4 columns: A, B, C and D as shown below. (Be sure to use either the **Tab** key or right-arrow key on your keyboard as you type data across the columns in your worksheet. After typing the last cell in Column D, hit **Enter** key to start from the next row in Column A.) Do not worry about content not fitting in the column yet. The full content of Cell A5 is "Akron-Summit County Public Library". Read more explanation below.


	A	B	C	D
1	Customer	Order Date	Order Amount	Percentage
2	New Age Inc.	7/10/2014	1863.40	0.93
3	ABC Plumbing	7/17/2014	1552.60	0.78
4	Akron Art Museum	7/24/2014	654.06	0.33
5	Akron-Summit Count	7/31/2014	440.00	0.22

To Insert a Content:

Just Type **content** into the selected cell, then press **Enter** on your keyboard. The content will appear in the **cell** and the **formula bar**. You can also input and edit cell content directly in the formula bar.



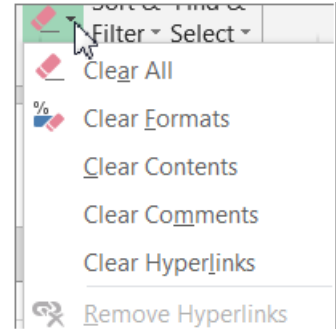
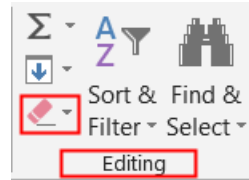
Options Entering and Editing Data: After typing in your data in a cell

- Use **Enter** key to move the active cell to the cell right below
- Use **Tab** key to move the active cell across on the same row
- Use **Esc** key if you decide that you do not want the data to be accepted **OR** click on the "X" next to the formula bar area 
- You can edit your data by clicking directly in the **formula bar** area then use the **backspace** button to edit your data **OR** select the cell with the data and simply start typing new information in it.

- **Step 2:** Clear the content of Cell A3 “ABC Plumbing” by using **Home>Clear Contents** in the **Editing Group** OR using the **Delete** key on your keyboard. Enter the new data “Boys and Girls Club” in Cell A3. (**Note:** You can also overwrite the new information without clearing the existing content.)

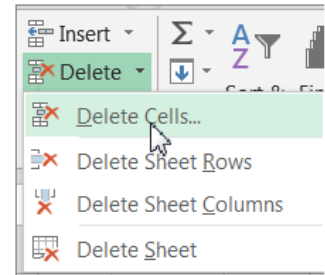
Deleting Data or Clearing Cell Content:

- Select the **cell** with content you wish to delete.
- Press the **Delete** or **Backspace** key on your keyboard. The cell's contents will be deleted. **OR**
- You can also delete or clear the cell contents by using the **Clear** function in the **Editing Group** under the **Home** tab. Excel will simply clear the contents, comments, formats, hyperlinks, or all and leave the original cell blank without shifting the cells around the cleared cell. **OR**
- Right-click on the selected cell and select **Clear Contents**.



Deleting Cells:

There is an important difference between **clearing the content of a cell** and **deleting the cell itself**. If you delete the entire cell using the **Home>Delete Cells** function, the cells below the deleted cell will **shift up** and replace the deleted cells. In this example below, by deleting the cell A3 shifted up Cell C4 creating an incorrect data alignment.



	A	B	C
1	Customer	Order Date	Order Amount
2	New Age Inc.	7/10/2014	1863.40
3	ABC Plumbing	7/17/2014	1552.60
4	Akron Art Museum	7/24/2014	654.06
5	Akron-Summit Count	7/31/2014	440.00

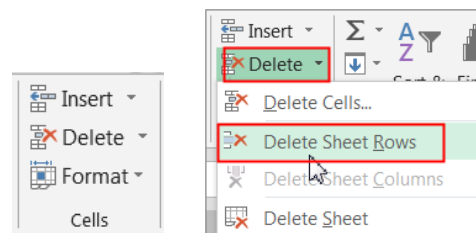
	A	B	C
1	Customer	Order Date	Order Amount
2	New Age Inc.	7/10/2014	1863.40
3	Akron Art Museum	7/17/2014	1552.60
4	Akron-Summit Count	7/24/2014	654.06
5		7/31/2014	440.00

Spreadsheet data is normally arranged so all relevant information exists on each row or column. To avoid mishaps shown in the above example, it is recommended if an entire row or column *first* then hit the **Delete** function in the **Cells Group** under the **Home Ribbon**. See below.

Step 1) Select the entire row

Step 2) Select either **Delete** or **Delete Sheet Rows** in the **Cell Group** under the **Home Tab**.

	A	B	C	D
1	Customer	Order Date	Order Amount	Percentage
2	New Age Inc.	7/10/2013	1863.40	0.93
3	ABC Plumbing	7/12/2013	1552.60	0.78
4	Akron Art Museum	7/15/2013	654.06	0.33
5	Akron-Summit Count	7/16/2013	440.00	0.22



- **Step 3:** Select the entire Row 3. Use the **Delete Command** in the **Cells Group** to delete the entire row 3. Watch the row below with *Akron Art Museum* data will shift one row up to take the deleted row.

Deleting Columns: Works the same way. Select the column(s) you want to delete and use **Delete** or **Delete Sheet Columns** in the **Cell Group** under the **Home Tab**.

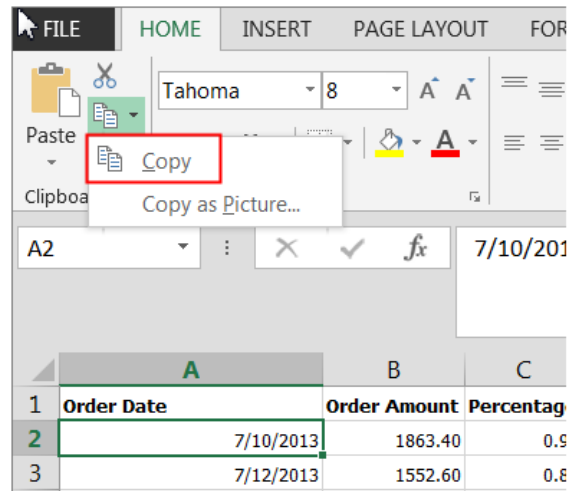
- **Step 4:** Save the workbook on your desktop; rename the workbook by using your first name.
- **Step 5:** Close the Excel Program.

To copy and paste cell content:

Excel allows you to copy content that is already entered into your spreadsheet and paste that content to other cells, which can save you time and effort.

Exercise: Open the *ExcelPart1.xlsx* and select *CellBasics* worksheet and follow the instructions below.

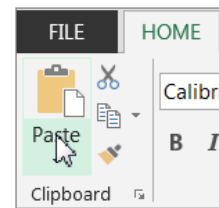
- Select the cell(s) you wish to copy. Cell A2.
- Click the **Copy** command on the **Home** tab, or press **Ctrl+C** on your keyboard. The copied cells will now have a dashed box around them.



- Select the **cell(s)** where you wish to **paste** the content. Select Cell A6.
- Click the **Paste** command on the **Home** tab, or press **Ctrl+V** on your keyboard.
- The content will be **pasted** into the selected cells. Hit **Esc** key on your keyboard to deactivate dashed box around Cell A2.

	A	B	C	D
1	Order Date	Order Amount	Percentage	
2	7/10/2013	1863.40	0.92	
3	7/12/2013	1552.60	0.89	
4	7/15/2013	654.06	0.52	
5	7/16/2013	440.00	0.45	
6				
7				

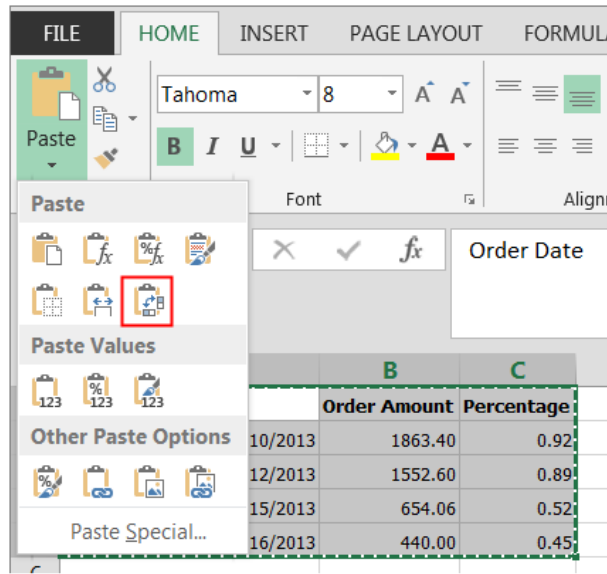
Paste Destination



- Select the entire Row 6 and use **Delete Cells** function from the **Cells Group** under the **Home** tab to prepare for the next exercise. Keep the workbook open.

Additional Paste Options:

There are also other paste options you can explore. Click the drop-down arrow under Paste Command after copying cell(s). They are especially convenient when working with cells that contain **formulas or formatting**.



One useful option is “Transpose” where you can switch row and column data into an opposite structure.

Exercise: Use the already opened worksheet *CellBasics*.

- Click the cell(s) you want to transpose. Cells A1:C5.
- Click the **Copy** button. The copied cells will now have a dashed box around them.
- Click the first cell of the new column or row (Make sure you paste into blank cells). Select Cell A7.
- Click the **Transpose** command under paste option. Now you have your row and column data switched.
- Click on the **Undo** button on **Quick Access Toolbar** and **Esc** button to undo and clear what you have just done to practice the next topic.

	A	B	C	D	E
1	Order Date	Order Amount	Percentage		
2	7/10/2013	1863.40	0.92		
3	7/12/2013	1552.60	0.89		
4	7/15/2013	654.06	0.52		
5	7/16/2013	440.00	0.45		
6					
7	Order Date	7/10/2013	7/12/2013	7/15/2013	7/16/2013
8	Order Amount	1863.40	1552.60	654.06	440.00
9	Percentage	0.92	0.89	0.52	0.45

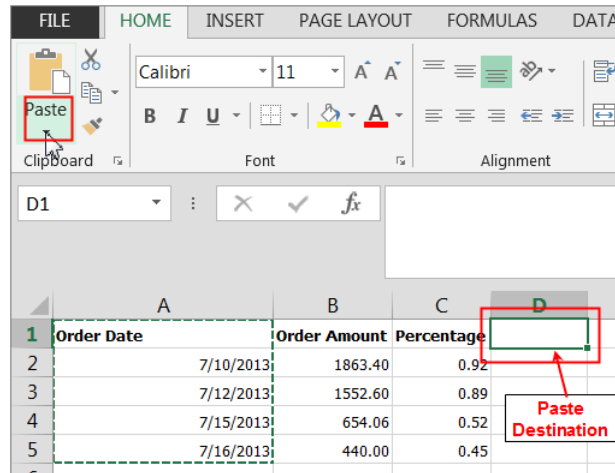
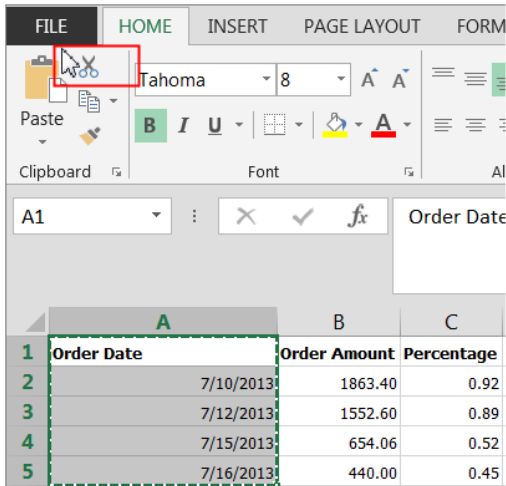
To cut and paste cell content:

Unlike copying and pasting, which **duplicates** cell content, **cutting** allows you to **move** content between cells.

Exercise: Use the already opened worksheet, *CellBasics*.

- Select the **cell(s)** you wish to **cut**. Select Cell A1:A5.
- Click the **Cut** command on the **Home** tab, or press **Ctrl+X** on your keyboard. The cut cells will now have a **dashed box** around them.

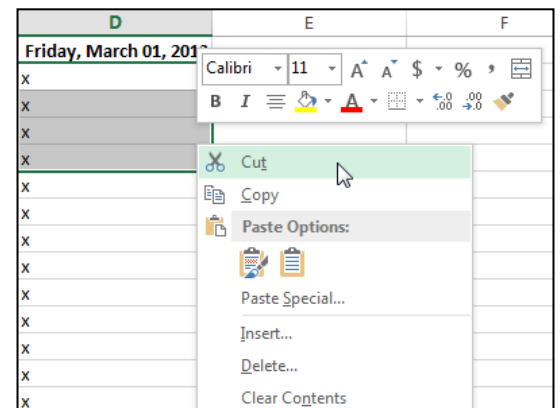
- Select the cells where you wish to **paste** the content. Select Cell D1.
- Click the **Paste** command on the **Home** tab, or press **Ctrl+V** on your keyboard.
- The cut content will be **removed** from the original cells and **pasted** into the selected cells.
- Click on the **Undo** button on **Quick Access Toolbar** and **Esc** button to undo and clear what you have just done to practice the next topic.



	A	B	C	D
1		Order Amount	Percentage	Order Date
2		1863.40	0.92	7/10/2013
3		1552.60	0.89	7/12/2013
4		654.06	0.52	7/15/2013
5		440.00	0.45	7/16/2013

Data moved from column A to D



Right-click Option: Rather than choosing commands from the **Ribbon**, you can access commands quickly by right-clicking. Simply select the cell(s) you wish to format, then right-click the mouse. A drop-down menu will appear, where you'll find several commands that are also located on the Ribbon.



To drag and drop cells:

Rather than cutting, copying, and pasting, you can drag and drop cells to move their contents.

- Select the cell(s) you wish to move.
- Hover the mouse over the border of the selected cell(s) until the cursor changes from a white

cross  to a black cross with four arrows .

- Click, hold, and drag the cells to the **desired location**.
- Release the mouse, and the cells will be **dropped** in the selected location. See the steps below.

1

F	G
Friday, March 1, 2013	Friday, March 8, 2013
x	
x	
	x
	x
x	
x	

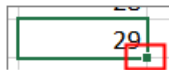
2

F	G
Friday, March 1, 2013	Friday, March 8, 2013
x	
x	
	x
	x
x	
x	

F4:F5

3

F	G
Friday, March 1, 2013	Friday, March 8, 2013
x	
x	
	x
	x
x	
x	



More on Fill Handle: You can use the **fill handle** to quickly copy and paste content to **adjacent cells** in the same row or column. To do this:

- Select the **cell(s)** containing the content you wish to use. The **fill handle** will appear as a small square in the bottom-right corner of the selected cell(s).
- Click, hold, and drag the **fill handle** until all of the cells you wish to fill are **selected**.
- Release the mouse to **fill** the selected cells.

C	D
Percentage	Processed
0.92	X
0.89	
0.52	
0.45	

C	D
Percentage	Processed
0.92	X
0.89	
0.52	
0.45	

C	D
Percentage	Processed
0.92	X
0.89	X
0.52	X
0.45	X

Using Fill Handle to fill the series: The fill handle can also be used to continue a series. Whenever the content of a row or column follows a sequential order, like numbers (**1, 2, 3**) or days (**Monday, Tuesday, Wednesday**), the fill handle can guess what should come next in the series. In many cases, you may need to select multiple cells before using the fill handle to help Excel determine the series order. **Exercise:** In *CellBasics* worksheet, block Cells A2:A5 and use the fill handle to extend a series of dates.

A	B
Order Date	Order Amount
7/10/2014	1863.40
7/17/2014	1552.60
	654.06

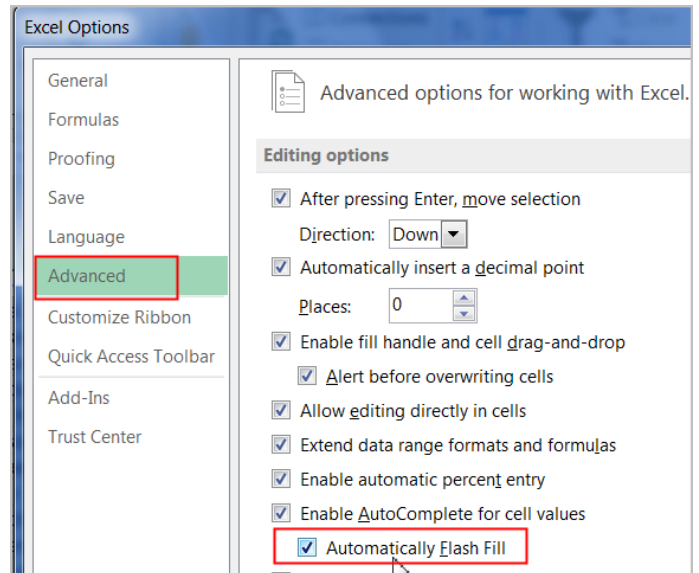
	A	B
1	Order Date	Order Amount
2	7/10/2014	1863.40
3	7/17/2014	1552.60
4	7/24/2014	654.06

A	B
Order Date	Order Amount
7/10/2014	1863.40
7/17/2014	1552.60
7/24/2014	654.06
7/31/2014	440.00

Flash Fill:

A new feature in Excel 2013, **Flash Fill** can enter data automatically into your worksheet, saving you a lot of time and effort. Just like the fill handle, **Flash Fill** can guess what kind of information you're entering into your worksheet. Flash Fill is on by default and automatically fills your data when it senses a pattern. However, if it's not working as expected, here's how you can check if **Flash Fill** is turned on.

1. Click **File > Options**.
2. Click **Advanced** and make sure the **Automatically Flash Fill** box is checked.



If your data has many inconsistencies, automatic **Flash Fill** may not appear though you selected the options explained above. In this case, you can manually activate **Flash Fill** by using **Data>Flash Fill** in the **Data Tools Group** OR using **Control + E** combination. You can always use the old feature, **Text to Columns** to split text into different cells. In the exercise below, instead of using **Text to Columns** feature to split the data, we'll use **Flash Fill** to create a list of **first names** using a list of existing **email addresses**.

Exercise: Open *FlashFillExample* worksheet in the same workbook *ExcelPart1.xlsx*.

- Select Cell C5 and type in the first name "Josie" in the cell. **Note: Flash Fill** is case sensitive. If you enter a lower-case last name, for example, all the first names follow suit.
- Select Cell C6 and as soon as you start with the letter "W" to type the next first name "Wendy", the **Flash Fill preview** will appear below the selected cell whenever Flash Fill is available.
- Just hit **Enter** to accept the data to be **added** to the worksheet.
- **Note:** To modify or undo **Flash Fill**, click the **Flash Fill button** next to recently added Flash Fill data.
- Save the workbook and close it.

