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**Department: Medical Instrumentation Techniques Engineering**
**Class: Fourth**
**Subject: Computer Applications / Code: MU0244007**
**Lecturer: M.Sc. Alaa Khalid&  M.sc Ali Kareem**
**2ˢᵗ term–Lecture No. 2&3/ Cell Basics and Formatting.**

## Cell Basics and Formatting

Whenever you work with Excel, you'll enter information, or content, into cells. Cells are the basic building blocks of a worksheet. You'll need to learn the basics of cells and cell content to calculate, analyse, and organize data in Excel.

### 2.1 Understanding Cells

Every worksheet is made up of thousands of rectangles, which are called cells. A cell is the intersection of a row and a column. Columns are identified by letters (A, B, C), while rows are identified by numbers (1, 2, 3).
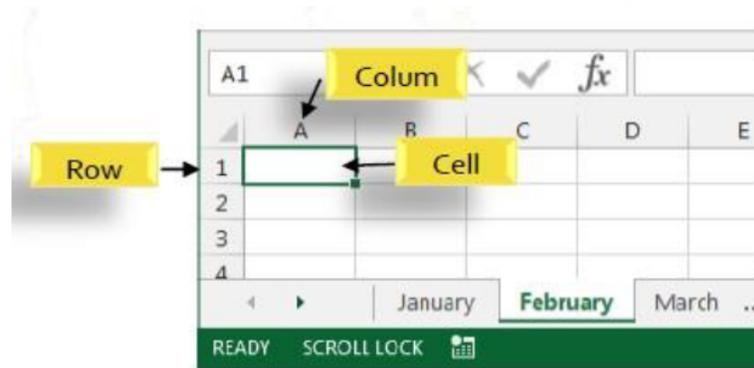


Each cell has its own name, or cell address, based on its column and row. In this example, the selected cell intersects column C and row 5, so the cell address is C5. The cell address will also appear in the Name box. Note that a cell's column and row headings are highlighted when the cell is selected.
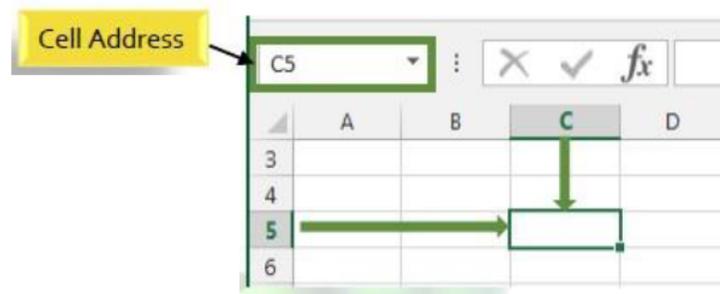
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You can also select multiple cells at the same time. A group of cells is known as a cell range. Rather than a single cell address, you will refer to a cell range using the cell addresses of the first and last cells in the cell range, separated by a colon. For example, a cell range that included cells A1, A2, A3, A4, and A5 would be written as A1:A5.

In the images below, two different cell ranges are selected:
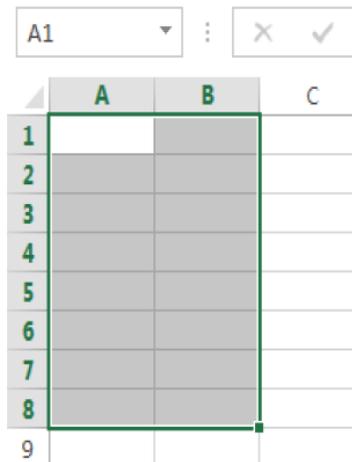
Cell range A1:B8          Cell range A1:A8
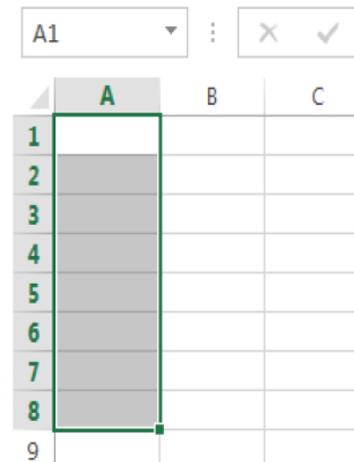


- *To select a cell range*

Sometimes you may want to select a larger group of cells, or a cell range.

1- Click, hold, and drag the mouse until all of the adjoining cells you wish to select are highlighted.
2- Release the mouse to select the desired cell range. The cells will remain selected until you click another cell in the worksheet.

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## 2.2 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.

|   | A | B | C |
|---|---|---|---|
| 1 | Date | Sales | Percentage of Total |
| 2 | 5/6/2013 | 65 | 0.71 |
| 3 | 5/7/2013 | 78 | 0.78 |
| 4 | 5/8/2013 | 112 | 0.86 |
| 5 | 5/9/2013 | 54 | 0.28 |
| 6 | 5/10/2013 | 99 | 0.49 |
| 7 | 5/11/2013 | 189 | 0.65 |
| 8 | 5/12/2013 | 120 | 0.57 |
| 9 |  |  |  |

- **Formatting Attributes**

Cells can contain formatting attributes that change the way letters, numbers, and dates are displayed. For example, percentages can appear as 0.15 or 15%. You can even change a cell's background color.

- **Formulas and Functions**

Cells can contain formulas and functions that calculate cell values. In our example, SUM (B4:B7) adds the value of each cell in cell range B4:B7 and displays the total in cell B8.

| B8 | | ⋮ | ✕ ✓ *fx* | =SUM(B4:B7) |
|---|---|---|---|---|

|   | A | B | C | D | E |
|---|---|---|---|---|---|
| 3 | Date | Students | Percentage |  |  |
| 4 | 1/2/2015 | 36 | 36% |  | 100 |
| 5 | 1/3/2015 | 50 | 50% |  |  |
| 6 | 1/4/2015 | 14 | 14% |  |  |
| 7 | 1/5/2015 | 55 | 55% |  |  |
| 8 |  | 155 |  |  |  |

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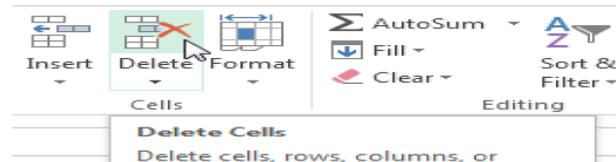**2ˢᵗ term–Lecture No. 2&3/ Cell Basics and Formatting.**

- *To delete cell content*

  1- Select the cell with content you wish to delete.
  2- Press the Delete or Backspace key on your keyboard. The cell's contents will be deleted.

- *To delete cells*

There is an important difference between deleting the content of a cell and deleting the cell itself. If you delete the entire cell, the cells below it will shift up and replace the deleted cells.

  1- Select the cell(s) you wish to delete.
  2- Select the Delete command from the Home tab on the Ribbon.
  3- The cells below will shift up.

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- *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.

1- Select the cell(s) you wish to copy.
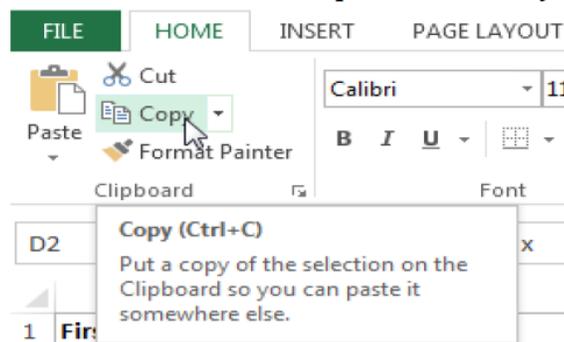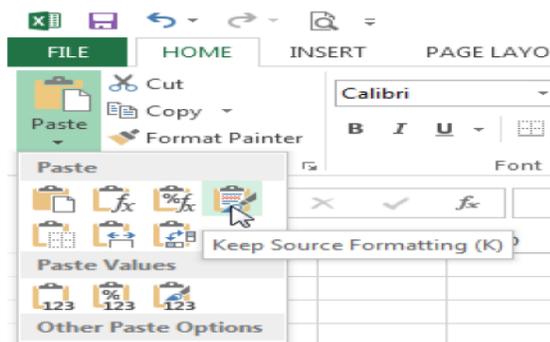2- Click the Copy command on the Home tab, or press Ctrl+C on your keyboard.



**Figure 34**

3- Select the cell(s) where you wish to paste the content. The copied cells will now have a dashed box around them.
4- Click the Paste command on the Home tab, or press Ctrl+V on your keyboard.
5- The content will be pasted into the selected cells.

- *To access more paste options*
You can also access additional paste options, which are especially convenient working with cells that contain formulas or formatting. To access more paste options, the drop-down arrow on the Paste command.



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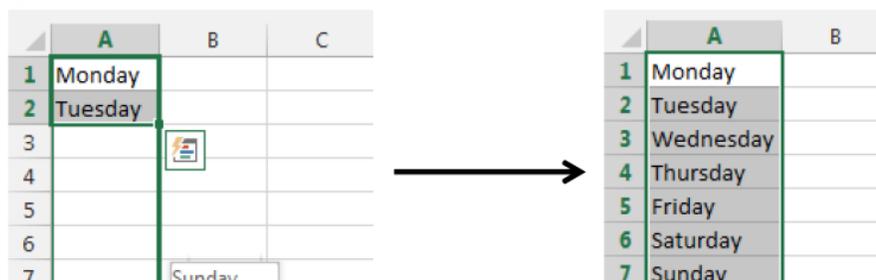
- *To use the fill handle*

There may be times when you need to copy the content of one cell to several other cells in your worksheet. You could copy and paste the content into each cell, but this method would be very time consuming. Instead, you can use the fill handle to quickly copy and paste content to adjacent cells in the same row or column.

1- 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).
2- Click, hold, and drag the fill handle until all of the cells you wish to fill are selected.
3- Release the mouse to fill the selected cells.
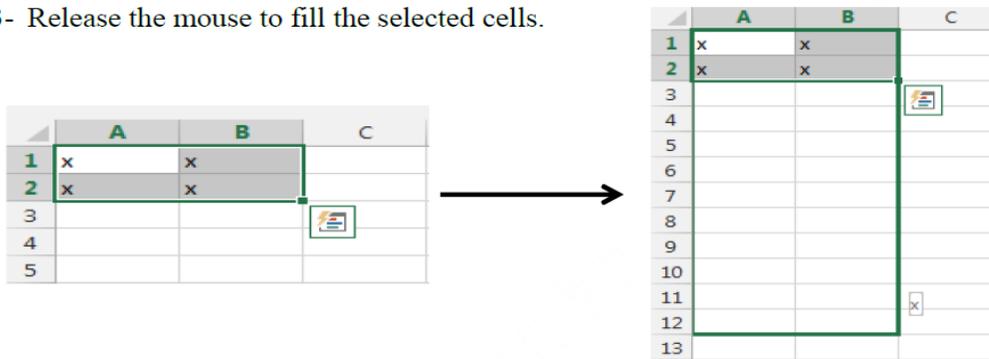
- *To continue a series with the fill handle*

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. In our example below, the fill handle is used to extend a series of dates in a column.

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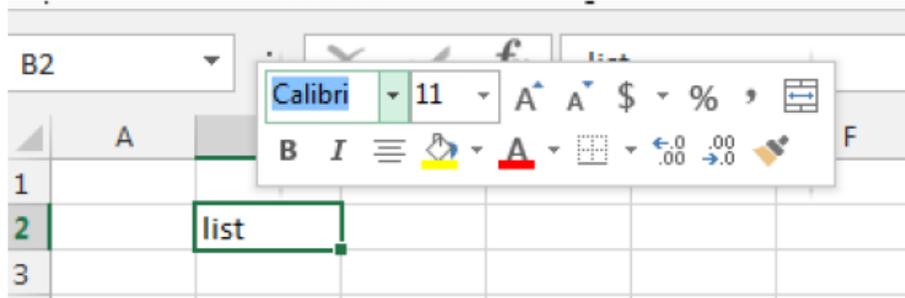
## 2.3 <u>Formatting Cells</u>

All cell content uses the same formatting by default, which can make it difficult to read a workbook with a lot of information. Basic formatting can customize the look and feel of your workbook, allowing you to draw attention to specific sections and making  your content easier to view and understand. You can also apply number formatting to tell Excel exactly what type of data you're using in the workbook, such as percentages (%), currency ($), and so on.

### Font Formatting

- *To change the font*

By default, the font of each new workbook is set to Calibri. However, Excel provides a variety of other fonts you can use to customize your cell text. In the example below, we'll format our title cell to help distinguish it from the rest of the worksheet.

1- Select the cell(s) you wish to modify.
2- Click the drop-down arrow next to the Font command on the Home tab. The Font drop-down menu will appear.
3- Select the desired font. A live preview of the new font will appear as you hover the mouse over different options.

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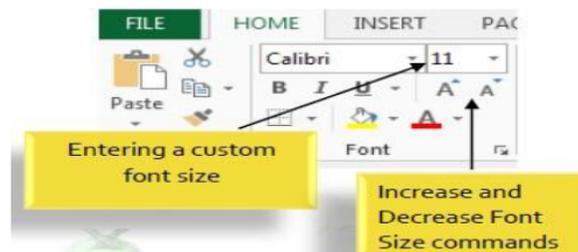**2ˢᵗ term–Lecture No. 2&3/ Cell Basics and Formatting.**

4- The text will change to the selected font.

❖ TIP: When creating a workbook in the workplace, you'll want to select a font that is easy to read. Along with Calibri, standard reading fonts include Cambria, Times New Roman, and Arial.

- *To change the font size*

1- Select the cell(s) you wish to modify.
2- Click the drop-down arrow next to the Font Size command on the Home tab. The Font Size drop-down menu will appear.
3- Select the desired font size. A live preview of the new font size will appear as you hover the mouse over different options.
4- The text will change to the selected font size.

- TIP: You can also use the Increase Font Size and Decrease Font Size commands or enter a custom font size using your keyboard.

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- *To change the font color*

1- Select the cell(s) you wish to modify.
2- Click the drop-down arrow next to the Font Color command on the Home tab. The Color menu will appear.
3- Select the desired font color. A live preview of the new font color will appear as you hover the mouse over different options.
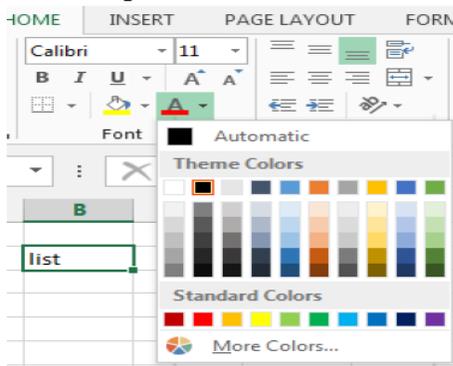
- *To use the Bold, Italic, and Underline commands*

1- Select the cell(s) you wish to modify.
2- Click the Bold (B), Italic (*I*), or Underline (U) command on the Home tab. In our example, we'll make the selected cells bold.
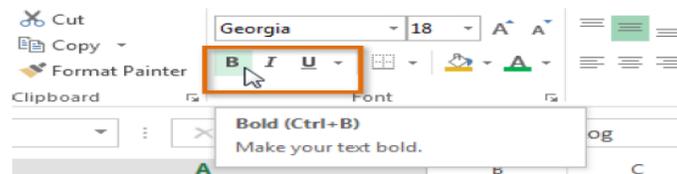
**Figure 41**

3- The selected style will be applied to the text.

- TIP: You can also press Ctrl+B on your keyboard to make selected text bold, Ctrl+I to apply italics, and Ctrl+U to apply an underline.
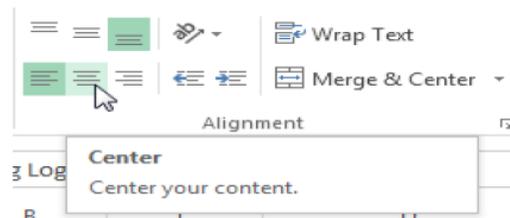
**Text Alignment**

By default, any text entered into your worksheet will be aligned to the bottom-left of a cell. Any numbers will be aligned to the bottom-right of a cell. Changing the alignment of your cell content allows you to choose how the content is displayed in any cell, which can make your cell content easier to read.

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- *To change horizontal text alignment*

  1- Select the cell(s) you wish to modify.
  2- Select one of the three horizontal alignment commands on the Home tab. In our example, we'll choose Center Align.



- *To change vertical text alignment*

1- Select the cell(s) you wish to modify.
2- Select one of the three vertical alignment commands on the Home tab. In our example, we'll choose Middle Align.



**Figure 43**

   3- The text will realign.

## 2.4 Cell Borders and Fill Colors

Cell borders and fill colors allow you to create clear and defined boundaries for different sections of your worksheet.

- *To add a border*

1- Select the cell(s) you wish to modify.
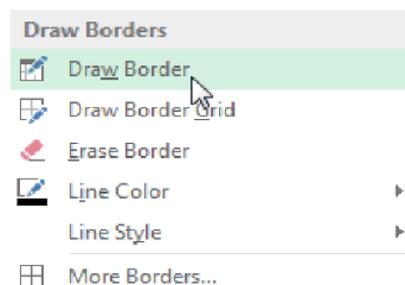2- Click the drop-down arrow next to the Borders command on the Home tab. The Borders drop-down menu will appear.

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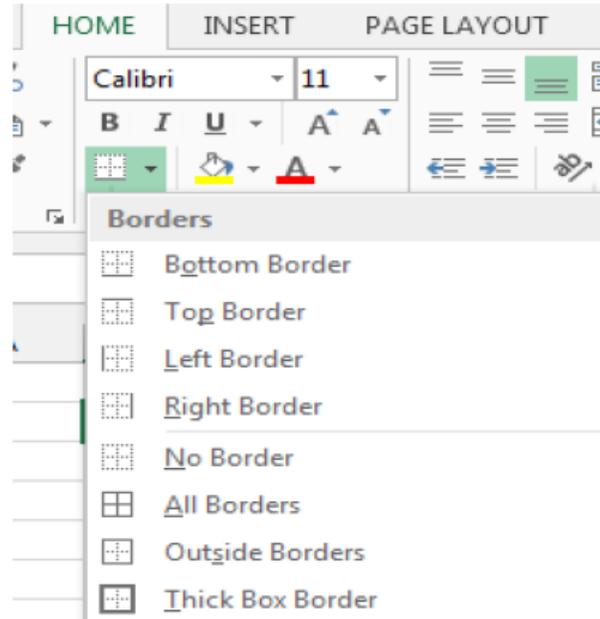
3- Select the border style you want to use.
4- The selected border style will appear.

- TIP: You can draw borders and change the line style and color of borders with the Draw Borders tools at the bottom of the Borders drop-down menu.

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- *To add a fill color*

1- Select the cell(s) you wish to modify.
2- Click the drop-down arrow next to the Fill Color command on the Home tab. The Fill Color menu will appear.
3- Select the fill color you want to use. A live preview of the new fill color will appear as you hover the mouse over different options. In our example, we'll choose Light Green.
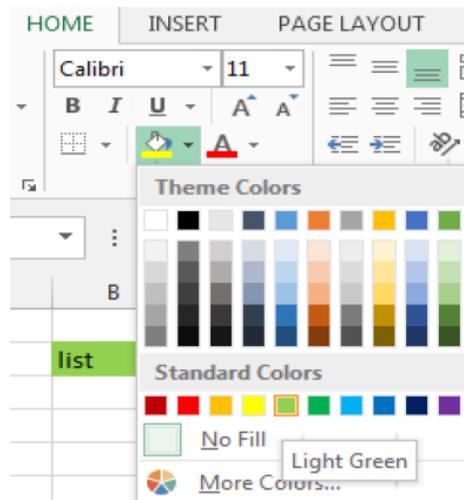


## 2.5 Formatting Text and Numbers

One of the most powerful tools in Excel is the ability to apply specific formatting for text and numbers. Instead of displaying all cell content in exactly the same way, you can use formatting to change the appearance of dates, times, decimals, percentages (%), currency ($), and much more.

- *To apply number formatting*

1- Select the cells(s) you wish to modify.
2- Click the drop-down arrow next to the Number Format command on the Home tab. The Number Formatting drop-down menu will appear.
3- Select the desired formatting option.
4- The selected cells will change to the new formatting style.

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General is the default format for any cell. When you enter a number into the cell, Excel will guess the number format that is most appropriate.

ABC
123    General
       No specific format

12     Number
       list

Number formats numbers with decimal places.

Currency formats numbers as currency with a currency symbol.

       Currency
       list

       Accounting
       list

Accounting formats numbers as monetary values like the Currency format, but it also aligns currency symbols and decimal places within columns.

Short Date formats numbers as M/D/YYYY.

       Short Date
       list

Long Date formats numbers as Weekday, Month DD, YYYY.

       Long Date
       list

       Time
       list

Time formats numbers as HH/MM/SS and notes AM or PM.

Percentage formats numbers with decimal places and the percent sign.

%      Percentage
       list

½      Fraction
       list

Fraction formats numbers as fractions separated by the forward slash.

Scientific formats numbers in scientific notation.

$10^2$  Scientific
        list

ABC    Text
       list

Text formats numbers as text, meaning that what you enter into the cell will appear exactly as it was entered.

**Figure 47**

You can easily customize any format in More Number Formats.

More Number Formats...

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## *Modifying Columns, Rows and Cells*

By default, every row and column of a new workbook is always set to the same height and width. Excel allows you to modify column width and row height in different ways, including wrapping text and merging cells.

- *To modify column width*

    1- Position the mouse over the column line in the column heading so the white cross becomes a double arrow.



    2- Click, hold, and drag the mouse to increase or decrease the column width.
    3- Release the mouse. The column width will be changed.

    ❖ TIP: If you see pound signs (#######) in a cell, it means that the column is not wide enough to display the cell content. Simply increase the column width to show the cell content.

- *To AutoFit column width*

The AutoFit feature will allow you to set a column's width to fit its content automatically.

    1- Position the mouse over the column line in the column heading so the white cross becomes a double arrow.
    2- Double-click the mouse. The column width will be changed automatically to fit the content.

    ❖ TIP: You can also AutoFit the width for several columns at the same time. Simply select the columns you would like to AutoFit, then select the AutoFit Column Width command from the Format drop-down menu on the Home tab. This method can also be used for Row height.

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### 3.1 Inserting, Deleting, Moving, and Hiding Rows and Columns

After you've been working with a workbook for a while, you may find that you want to insert new columns or rows, delete certain rows or columns, move them to a different location in the worksheet, or even hide them.
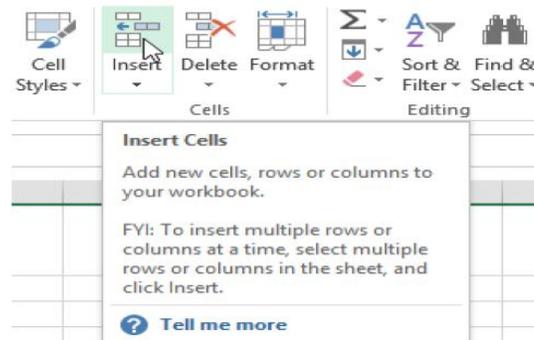
- **To insert rows**

  1- Select the row heading below where you want the new row to appear.
  2- Click the Insert command on the Home tab.
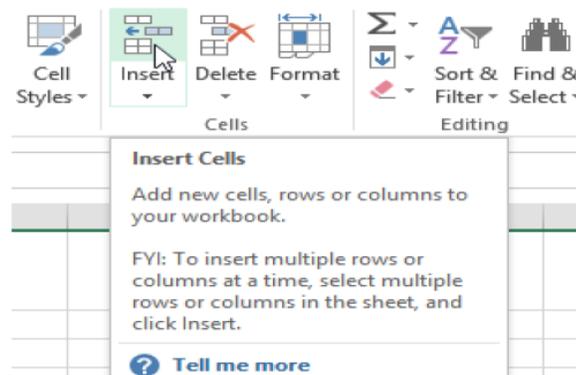


3- The new row will appear above the selected row.

- **To insert columns**

  1- Select the column heading to the right of where you want the new column to appear.
  2- Click the Insert command on the Home tab.



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3- The new column will appear to the left of the selected column.

- TIP: When inserting rows and columns, make sure you select the entire row or column by clicking the heading. If you select only a cell in the row or column, the Insert command will only insert a new cell.

- ***To delete rows***

It's easy to delete any row that you no longer need in your workbook.

1- Select the row(s) you want to delete.
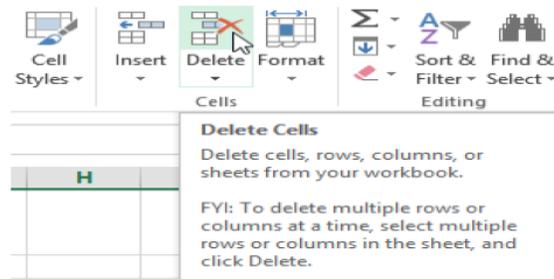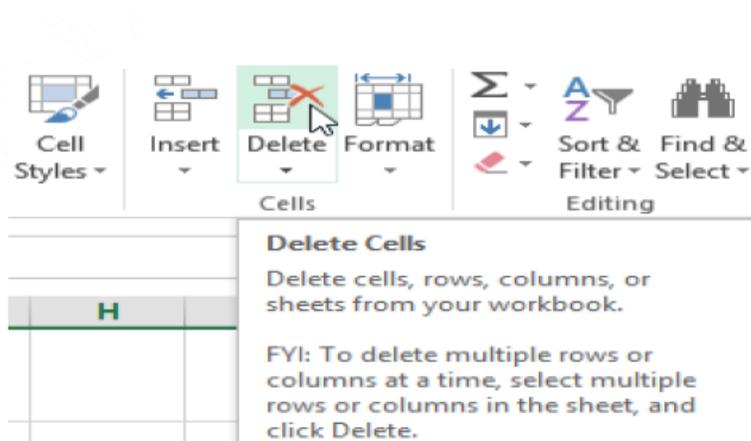2- Click the Delete command on the Home tab.



**Figure 51**

3- The selected row(s) will be deleted, and the rows below will shift up.

- ***To delete columns***
    1- Select the columns(s) you want to delete.
    2- Click the Delete command on the Home tab.

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3- The selected columns(s) will be deleted, and the columns to the right will shift left.

❖ TIP: It's important to understand the difference between deleting a row or column and simply clearing its contents. If you want to remove the content of a row or column without causing others to shift, right-click a heading, then select Clear Contents from the drop-down menu.

- *To move a row or column*

Sometimes you may want to move a column or row to rearrange the content of your worksheet.

1- Select the desired column heading for the column you wish to move, then click the Cut command on the Home tab or press Ctrl+X on your keyboard.
2- Select the column heading to the right of where you want to move the column. For example, if you want to move a column between columns B and C, select column C.
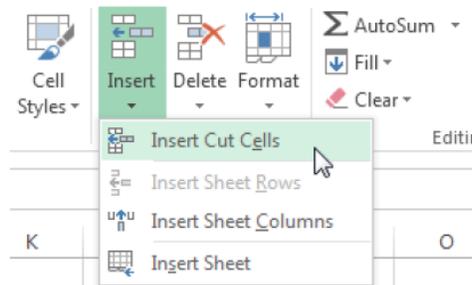3- Click the Insert command on the Home tab, and then select Insert Cut Cells from the drop-down menu.



**Figure 53**

4- The column will be moved to the selected location, and the columns to the right will shift right.

❖ TIP: You can also access the Cut and Insert commands by right-clicking the mouse and then selecting the desired commands from the drop-down menu.
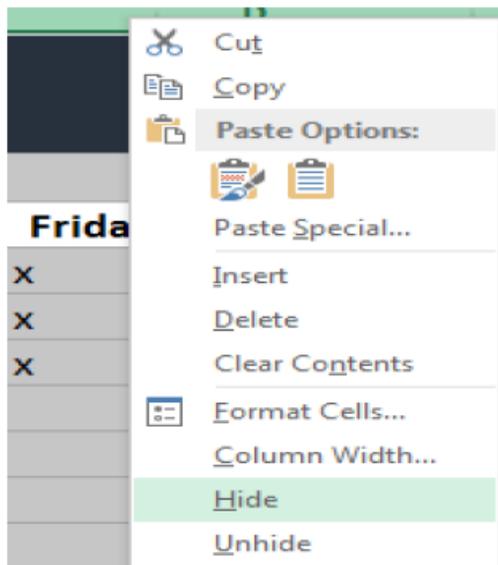
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- *To hide and unhide a row or column*

At times, you may want to compare certain rows or columns without changing the organization of your worksheet. Excel allows you to hide rows and columns as needed.

1- Select the column(s) you wish to hide, right-click the mouse, and then select Hide from the formatting menu.

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2- The columns will be hidden. The green column line indicates the location of the hidden columns.
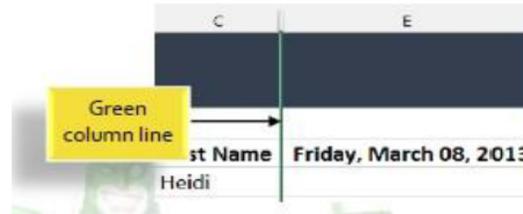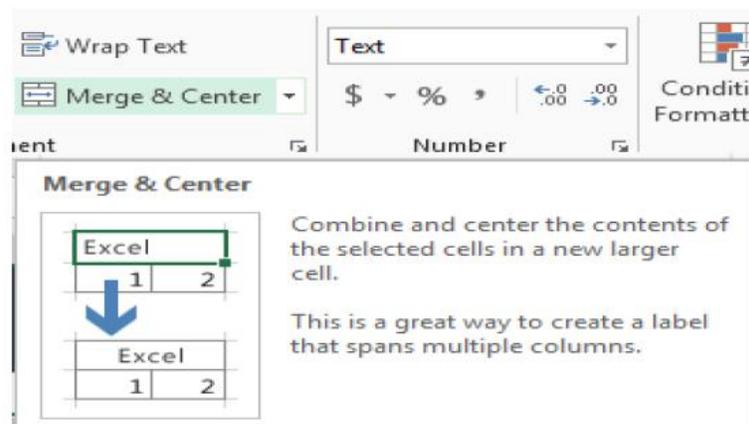


**Figure 55**

3- To unhide the columns, select the columns to the left and right of the hidden columns (in other words, the columns on both sides of the hidden columns).
4- Right-click the mouse, then select Unhide from the formatting menu. The hidden columns will reappear.

## 3.2 Wrapping text and merging cells

Whenever you have too much cell content to be displayed in a single cell, you may decide to wrap the text or merge the cell rather than resizing a column. Wrapping the text will automatically modify a cell's row height, allowing cell contents to be displayed on multiple lines. Merging allows you to combine a cell with adjacent, empty cells to create one large cell.

1- Select the cells you wish to wrap.
2- Select the Wrap Text command on the Home tab.

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- *To merge cells using the Merge & Center command*

    1- Select the cell range you want to merge together.
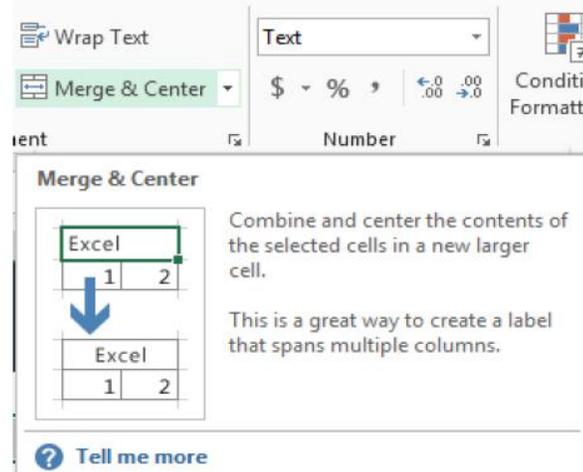    2- Select the Merge & Center command on the Home tab.



**Figure 57**

3- The selected cells will be merged, and the text will be centered.

- *To access more merge options*

Click the drop-down arrow next to the Merge & Center command on the Home tab. The Merge drop-down menu will appear. From here, you can choose to:

- **Merge & Center:** Merges the selected cells into one cell and centers the text
- **Merge Across:** Merges the selected cells into larger cells while keeping each row separate
- **Merge Cells:** Merges the selected cells into one cell, but does not center the text
- **Unmerge Cells:** Unmerges selected cells



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