Microsoft Excel

Lecture 5

By **Dr. Waleed Noori Hussein**
AL-Zahraa College of Medicine
University of Basrah

Objectives

<div dir="rtl">اهداف المحاضرة</div>

- Describe what a spreadsheet is and potential applications

- Explain how the rows and columns of a spreadsheet are identified, and how its cells are labeled.

- Distinguish between a formula and a constant

- Open, save, print a workbook; insert and delete rows and columns

INTRODUCTION TO SPREADSHEETS

❑ Spreadsheet is a computerized ledger

- Divided into rows and columns

  - Columns identified with alphabetic headings

  - Rows identified with numeric headings

- Cell references

- Constants--entries that do not change

- Formulas--combination of constants and functions
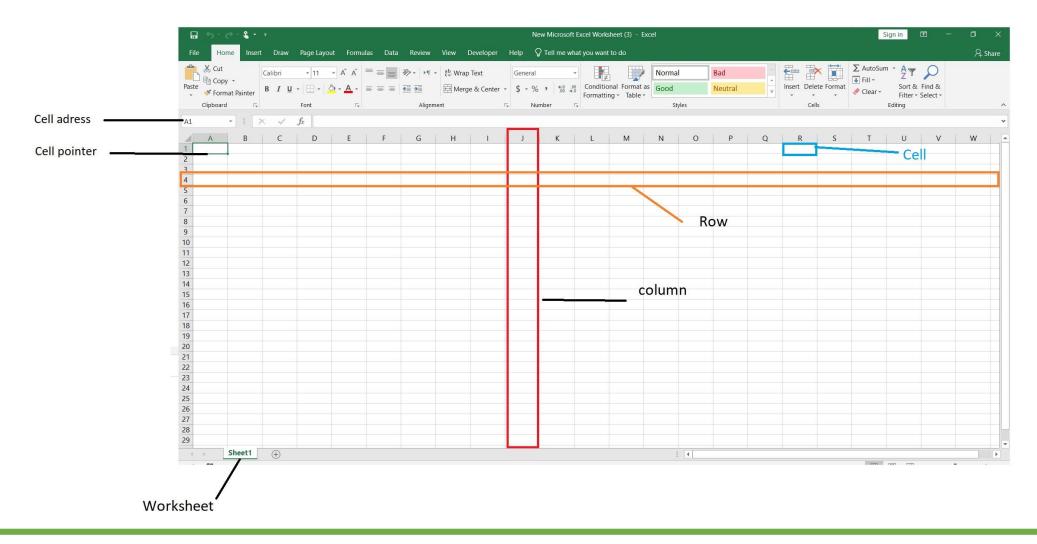
INTRODUCTION TO SPREADSHEETS

❑ Common user interface on all Office applications

- Menus and toolbars are similar to Word and Power Point

- Worksheet is an Excel spreadsheet

- Workbook contains one or more worksheets

- Toolbars--Standard and Formatting

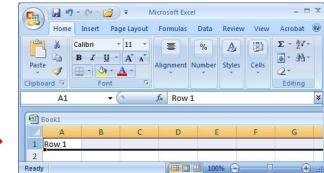- File menu--Save, Save As, Open and Print commands

❑ Rows are represented by **numbers** along the side of the sheet
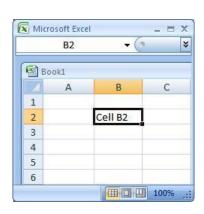

❑ Columns are represented by **letters** across the top of the sheet.

❑A **cell** is the intersection between a column and a row.

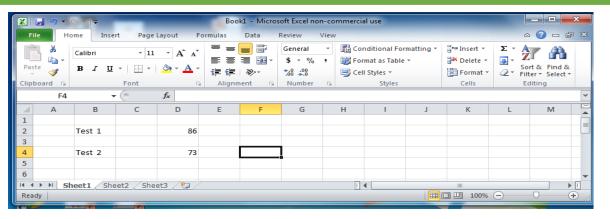• Each cell is named for the column letter and row number that intersect to make it.

WORKING IN A SPREADSHEET

o To work with a spreadsheet, you enter data in the cells of the spreadsheet.

o You enter data by clicking a cell and typing the data.

o To replace data in a cell, you click the specific cell and type the new data.

o To edit data in a cell, you double click in the cell and type additional data.

Note: when editing data, a blinking cursor appears.

❖ You can enter three types of data in a spreadsheet:

- **Text**: Text data has no numeric value associated with it.

- **Numbers**: A number has a constant numeric value, such as the test scores attained by a student.

- **Formulas and functions**: Formulas and functions are mathematical equations.
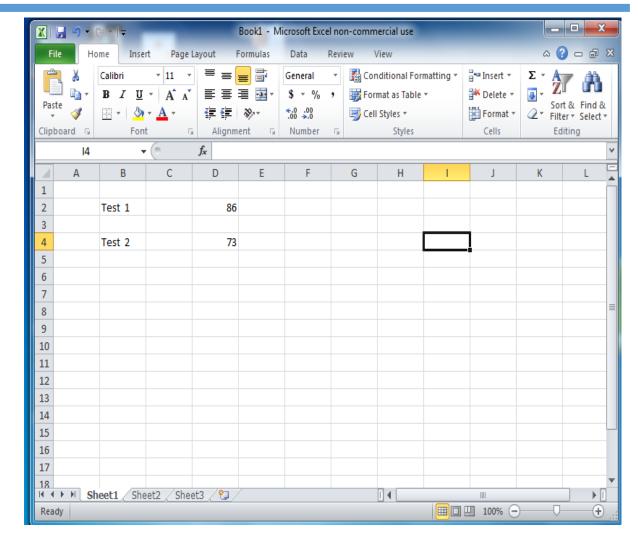
ENTER DATA

☐ **There are <u>two</u> ways to enter information into a cell:**

1. Type directly into the cell.

Click on a cell, and type in the data (numbers or text) and press Enter.
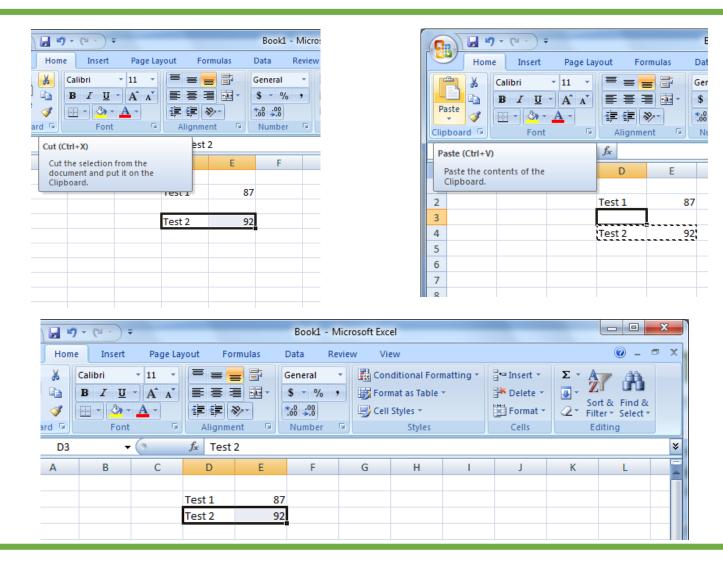
2. Type into the formula bar.

Click on a cell, and then click in the formula bar (the space next to the f_x). Now type the data into the bar and press Enter.

CUTTING & PASTING DATA
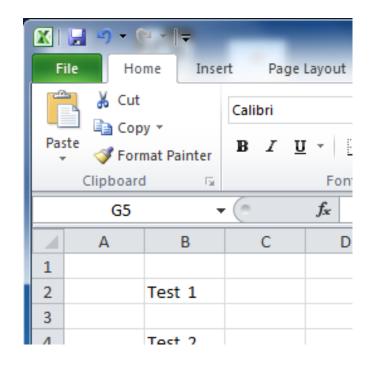
❑ To COPY contents of a cell:

Click on the cell,

Select the Home tab,

Click Copy from the Clipboard Group.

❑ To PASTE contents of a cell:

click on the cell,

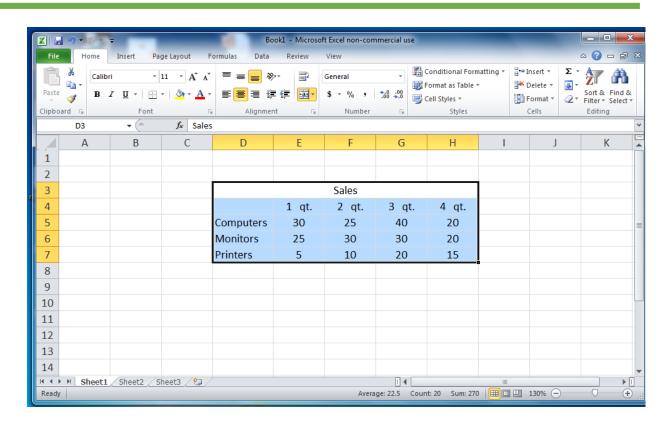Select the Home tab,

click Paste from the Clipboard Group.

❑ To select a range of cells in a column/row,

click the left mouse button in a cell &

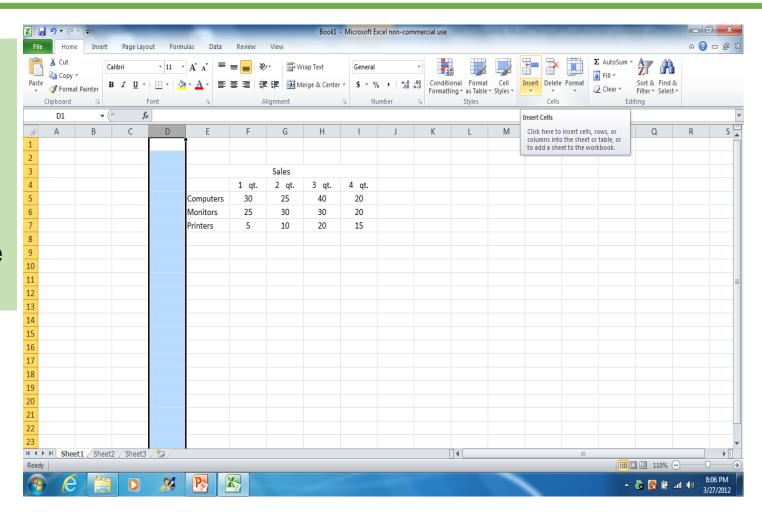drag the mouse pointer to highlight the

cells of your choice.
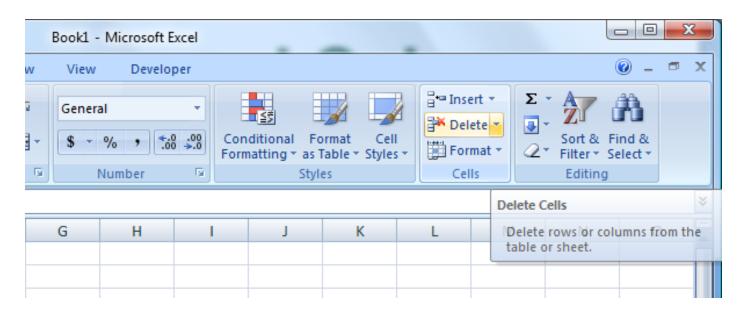
- ## To INSERT a Row/Column:
  - Select the row/column heading,
  - Click the Home Tab,
  - Click the Insert button from the Cells Group.

- ## The insertion occurs before the selected column/row.

DELETING ROWS AND COLUMNS

- To delete a column/row:
    - click the column/row heading
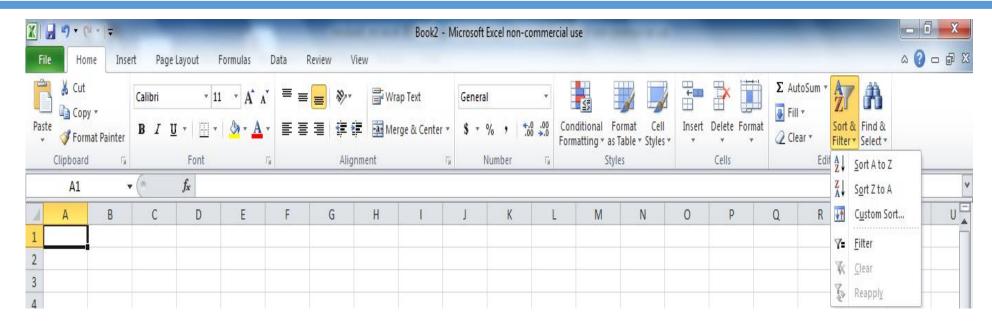   - click the Delete button on the Cells Group of the Home Ribbon.

❑You can expand the width of a column or the height of the row to increase the visible space in each cell.

❑To begin changing the width of the column, move the mouse pointer over the right edge of column heading until the mouse pointer changes to a double-headed arrow.
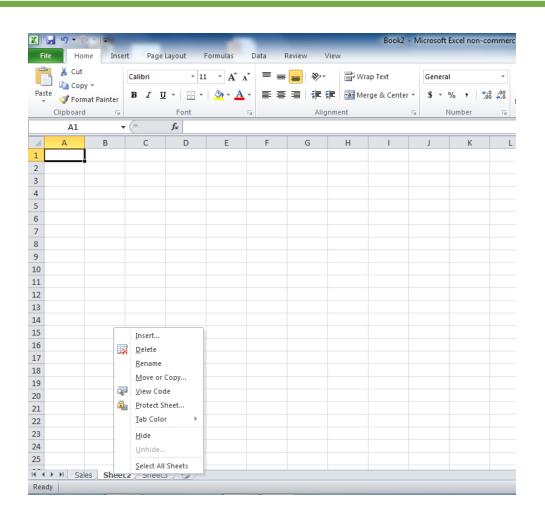
FROM A TO Z

❑You may want to organize or rearrange data in your worksheet. To sort data in the worksheet, click the column heading and then click **Sort & Filter** in the Editing Group on the Home Tab.
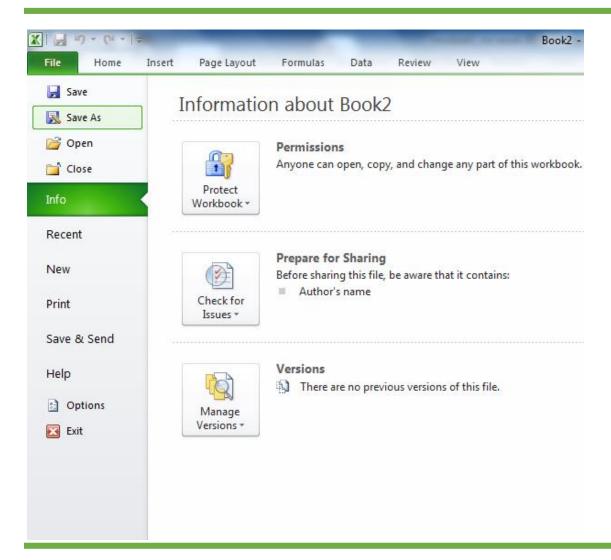
- To rename a worksheet:
  - double-click the sheet tab
  - type the new name
  - press ENTER

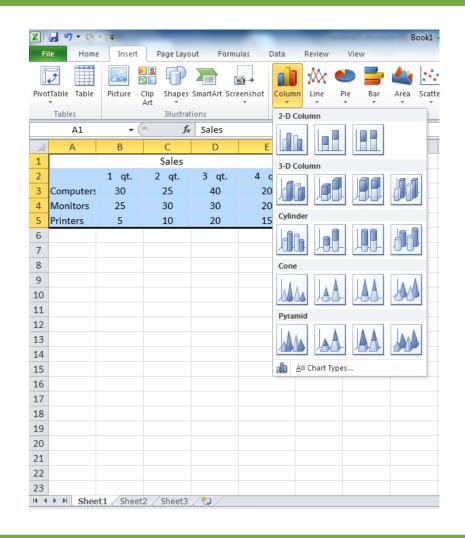- You can also Delete & Insert a Worksheet as well.
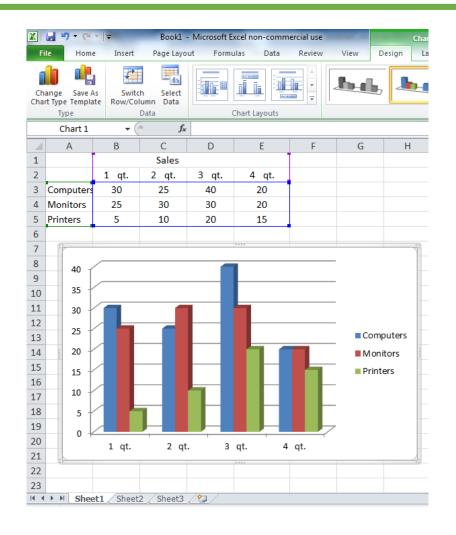
□ To save a workbook, click the File Tab, click **Save As** and select how you want to save.

INSERTING A CHART

FORMULAS & FUNCTIONS

❑**Formulas** are equations that perform calculations in your spreadsheet. Formulas always begin with an equals sign (=). When you enter an equals sign into a cell, you are basically telling Excel to "calculate this."

❑**Functions** are Excel-defined formulas. They take data you select and enter, perform calculations on them, and return value(s).

More on Functions

❑ All functions have a common format – the equals sign followed by the function name followed by the input in parentheses.

- The input for a function can be either:
  - A set of numbers (e.g., "=AVERAGE(2, 3, 4, 5)")
    - This tells Excel to calculate the average of these numbers.
  - A reference to cell(s) (e.g., "=AVERAGE(B1:B18) or "=AVERAGE (B1, B2, B3, B4, B5, B6, B7, B8)"
    - This tells Excel to calculate the average of the data that appear in all the cells from B1 to B8.
    - You can either type these cell references in by hand or by clicking and dragging with your mouse to select the cells.
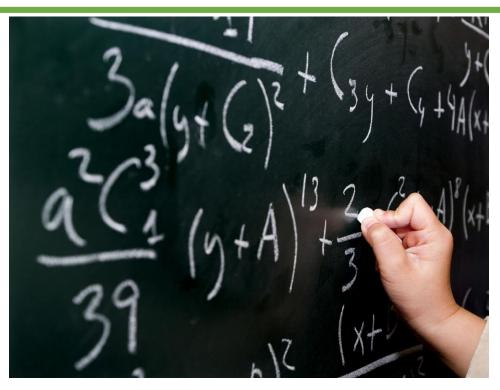
Functions for Descriptive Statistics

- Below are several functions you will need to learn for this class. Try them out with the practice data set.

  =AVERAGE(first cell:last cell): calculates the mean

  =MEDIAN(first cell:last cell): calculates the median

  =MODE(first cell:last cell): calculates the mode

  =VAR**P**(first cell:last cell): calculates the variance

  =STDEV**P**(first cell:last cell): calculates the standard deviation

  - You may directly write the functions for these statistics into cells or the formula bar, OR

  - You may use the function wizard (*f*ₓ in the toolbar)
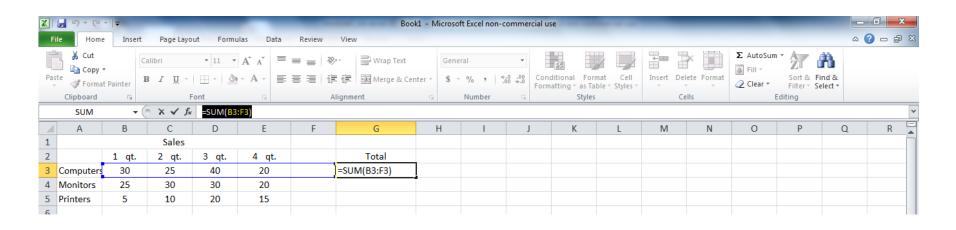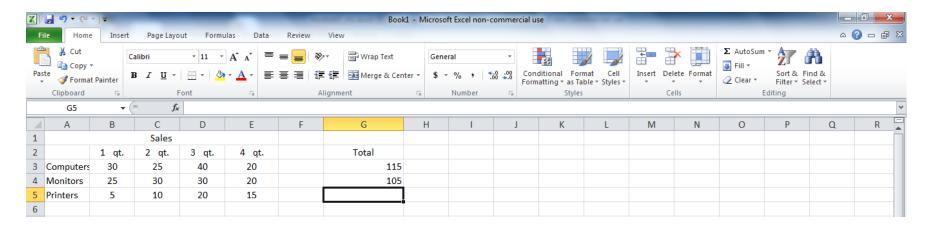
Excel reads any expression that begins with an equal sign as a calculation. All functions and formulas begin with an equal sign.

- The function =SUM(B1:B6)
- The formula =B1+B2+B3+B4+B5+B6

FORMULAS & FUNCTIONS

❖ The IF function

The IF function can perform a logical test and return one value for a TRUE result, and another for a FALSE result. For example, to "pass" scores above 70: =IF(B2>70,"Pass","Fail"). More than one condition can be tested by nesting IF functions. The IF function can be combined with logical functions like **AND** and **OR**.

- The values you supply for TRUE or FALSE

Syntax
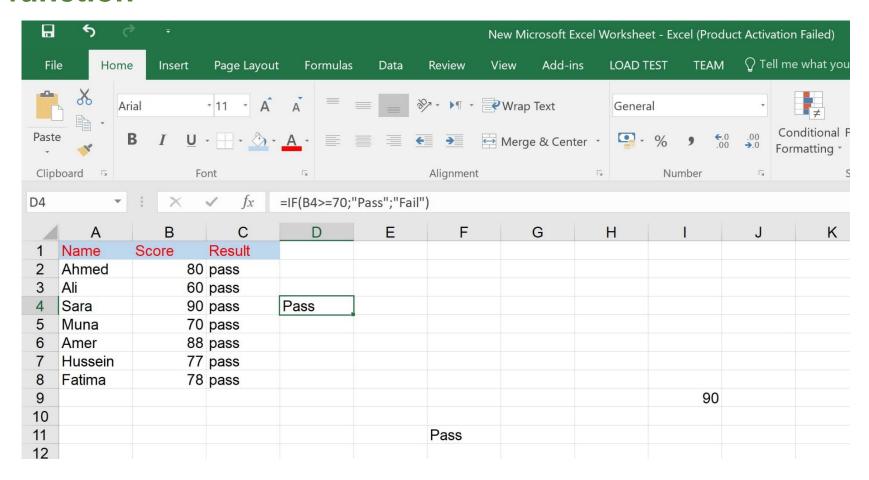
=IF (logical_test, [value_if_true], [value_if_false])

Arguments

- **logical_test** - A value or logical expression that can be evaluated as TRUE or FALSE.

- **value_if_true** - [optional] The value to return when logical_test evaluates to TRUE.

- **value_if_false** - [optional] The value to return when logical_test evaluates to FALSE
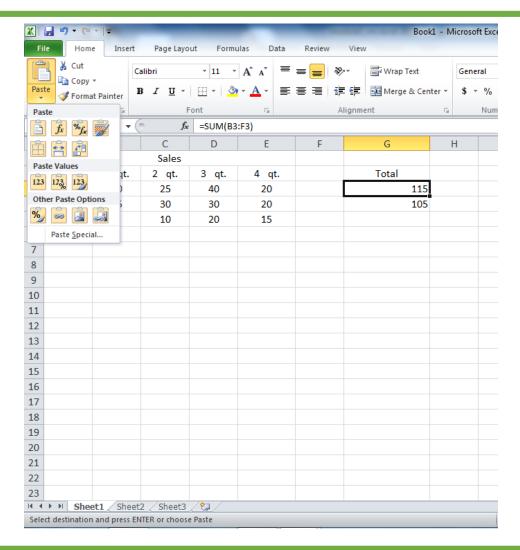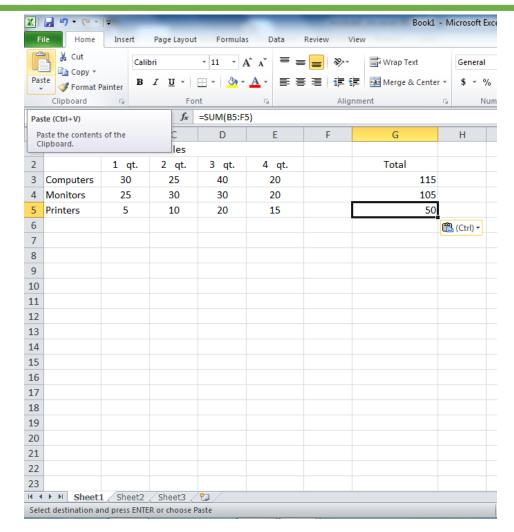
FORMULAS & FUNCTIONS

❑ The IF function
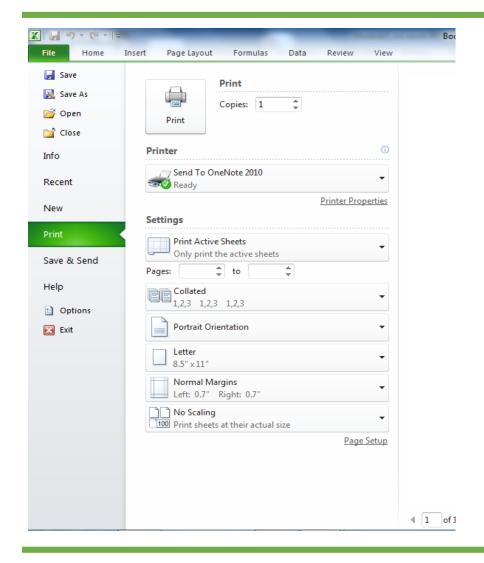
Copy & Paste formulas

❑ To print a spreadsheet, click the File Tab, point to Print, and then click **Print.**

❑ To specify the pages that you want to print, in the **Print** dialog box, under **Print range**, in the **From** and **To** boxes, type the pages that you want to print.

1. What is the scope of cells for A1:A10 in Microsoft Excel ?

2. Write steps to find the average of three cells (C1,C2 and C3)?

3. Explain by example the use of "if statement" in Microsoft Excel?

4. How it is possible to sort group of cells in Microsoft Excel?

5. Write steps to draw any style of chart in Microsoft Excel?

6. List five functions with their working?

Thank you