Spreadsheets
Definition of Spreadsheet

1. A Spread sheet application is a large sheet having data and information arranged in rows and columns

2. Spreadsheet is application software that tracks, analyzes, and charts numeric information.
3. A spreadsheet is an interactive computer application program for organization, analysis and storage of data in tabular form
4. Spreadsheet is a computer program or software which allows calculation to be carried out on several cells that have numbers

Example of Spreadsheet
1. iWork Numbers – Apple Office Suite
2. Lotus 1-2-3
3. OpenOffice – Calc
4. Lotus Symphony – Spreadsheets
5. Microsoft Excel
6. VisiCalc
7. SuperCalc
8. SPSS (Statistical package for Social Systems)

Application Areas of Spreadsheet
1. Accounting.
2. Statistical calculations.
3. Preparation of student results.
4. Obtaining tax estimation

5. Preparation of daily sales

Spreadsheet Terms and Features
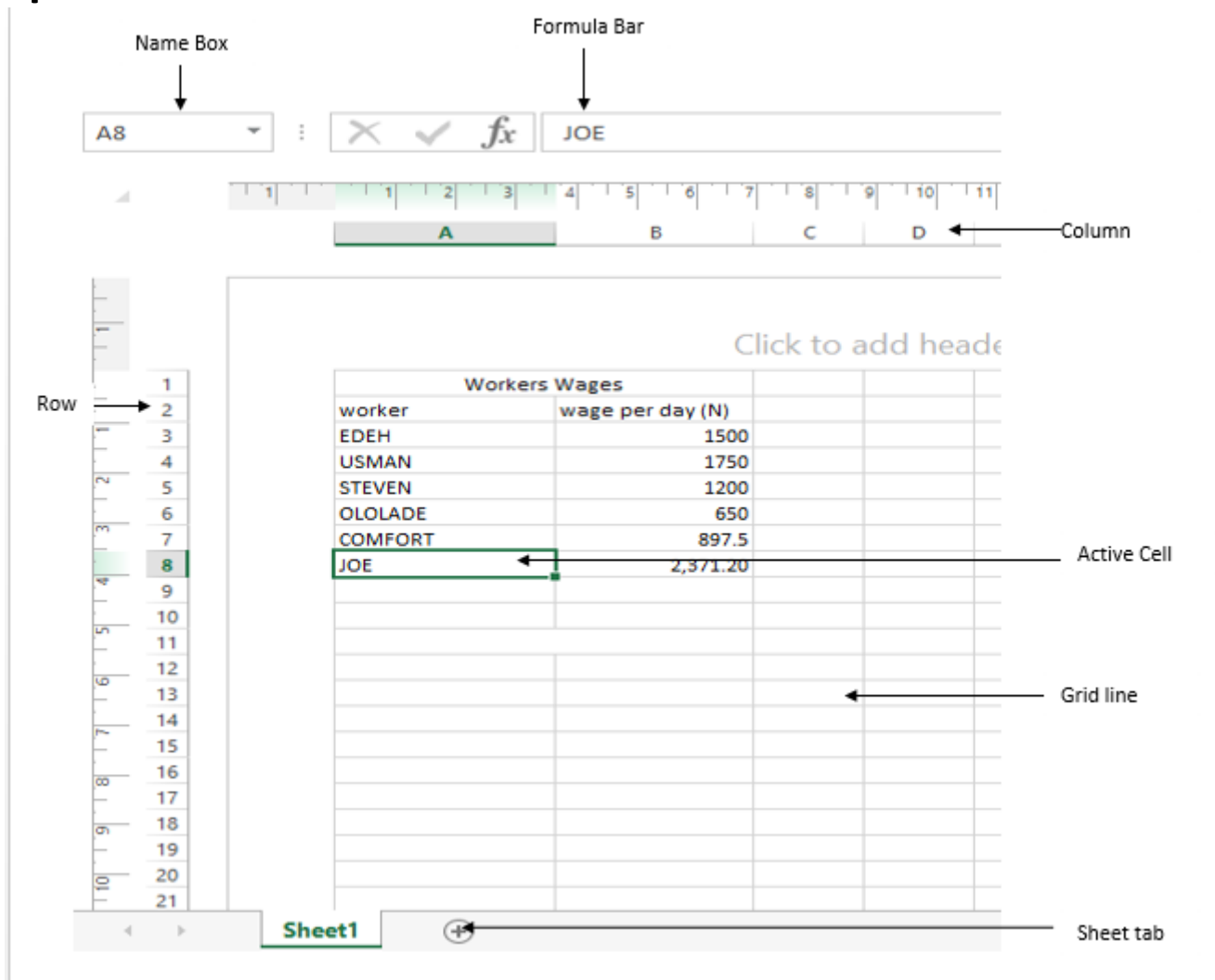
1. Absolute Cell Reference: An absolute cell reference is one that does not change when it is copied. To make a cell reference absolute, you must include a $ before the reference (e,g C4).

2. Active Cell: The active cell is the cell in the spreadsheet that is currently selected for data entry. The active cell reference is listed in the Name Box directly above the spreadsheet's column headings.

3. Anchor Cell: The anchor cell is the first cell that is highlighted in a range. When a range of cells is selected, they appear as highlighted in black. The anchor cell, however, remains white. If only one cell is selected in the sheet, it is the anchor cell.

4. Cell: A cell is a rectangular area formed by the intersection of a column and a row. Cells are identified by the Cell Name (or Reference, which is found by combining the Column Letter with the Row Number. For example the cell in Column "C" in Row "3" would be cell C3. Cells may contain Labels, Numbers, Formulas or Functions.

5. Cell Reference: A cell reference is the name of the cell that is found by combining the Column Letter with the Row Number. For example the cell in Column "C" in Row "3" would be cell C3.

6. Column: Columns run vertically on the spreadsheet screen. An Excel spreadsheet are labeled with the letters of the alphabet. When the column labels reach letter "Z" they continue on with AA, AB, AC...... AZ and then BA, BB, BC.....BZ etc.

7. Data: Data refers to the type of information that can be stored in the cells of a spreadsheet. Spreadsheet data types include values (numbers), labels, formulas and functions.

8. Formula: A formula is a spreadsheet data type that will calculate a result and display it in the active cell. A formula is written using cell references and must begin with an equal sign

"=" to distinguish it from a label. An example of a formula would be:

=A3+C3 which would take whatever value was entered into cell A3 and add it to the value that was typed into C3. After typing the formula and pressing the Enter key, the resulting value will be displayed.

9. Formula Bar: The formula bar appears directly above the column headings of a spreadsheet and will display what has been typed into the active cell. For example, if you click on a cell that contains the formula =A3+C3, the cell itself will show the result of the formula. The formula bar, however, will display what has actually been typed into the cell which, in this case, is =A3+C3.

10. Function: Functions are built-in formulas that are used to enter either commonly used or very complex formulas. Like formulas, functions begin with an equal sign "=" and use cell references in their format. One commonly used function is the Sum function, which will add up the values in a range. The function: =sum(H2:H25) would add all values contained in cells H2 through H25 and return the result when the enter key is pressed.

11. Gridlines: Gridlines are the horizontal and vertical lines on the screen that separate cells in a spreadsheet. Gridlines typically do not print unless the option is set in the layout options of the spreadsheet.

12. Labels: Labels refer to text that is typed into the cells of a spreadsheet. Labels have no numeric value and cannot be used in a formula or function.

13. Name Box: The name box appears to the left of the formula bar and displays the name of the current cell. Unless you define a cell or range of cells with a specific name, the name box will display the cell reference of the active cell.

14. Print Area: The print area is used to specify a range of cells that will be printed, rather than printing an entire worksheet. This is particularly useful for very large worksheets with multiple columns and rows.

15. Range: A range is a group of cells in a spreadsheet that have been selected. If the cells are all together in a rectangular or square shape, it is an adjacent range. An adjacent range is identified by the cell reference in the upper left and lower right corners of the selection separated by a colon. (Example: A3:B5). In this example, the range would include all cells in the rectangular area formed by beginning the highlighting in cell A3 and dragging down to B5. You can consider the colon as the word "through". In this case, the range would include cells A3 through B5.

16. Relative Reference: A relative cell reference is one that changes when it is copied. For example, if a formula that contains the cell reference "C4" is copied to the next cell to the

right, the reference will change to D4 (updating the column letter). If the same formula is copied down one cell, the reference will change to "C5" (updating the row number). The other type of reference is an Absolute Reference.

17. Rows: Rows run horizontally on the spreadsheet screen.

18. Sheet Tabs: In Microsoft Excel, the sheet tabs appear below the worksheet grid area and allow you to switch from one worksheet to another in a workbook.

19. Values: Values are numeric data that is entered into a cell. When data is formatted as the value type, it can be referred to in formulas and functions and used in calculations.

20. Workbook: A workbook is a collection of worksheets that are saved together in one file. Individual worksheets can be given descriptive names and you can switch from one worksheet to another by using the sheet tabs that appear beneath the worksheet grid area.

21. Worksheet: A worksheet is the grid of columns and rows that information is inputted into. In many spreadsheet applications (such as Microsoft Excel) one file -- called a workbook -- can contain several worksheets. Worksheets can be named using the sheet tabs of the bottom of the spreadsheet window. The sheet tabs can also be used to switch from one worksheet to another within a workbook.

Basic Operations in Worksheet

1. Starting Worksheet

To start a worksheet, the MS Excel will be loaded first to the screen of the computer. A workbook will be displayed automatically as the default file name book1

2. Data entry

This is the process of inputting data into the cells of the worksheet. There are three basic types of data in spreadsheet packages and they are:

a. Values or Numbers
b. Formula
c. Labels

3. Editing Worksheet

This is the process of customizing the worksheet so that it could ne neatly arranged on the pages when printing. Check spelling, preview layout, page setup and sheet setting, etc are parts of the editing process. The editing process gives the worksheet a befitting look.

4. Saving

This can easily be done using the Save As found on the file menu or by pressing ctrl + S keys simultaneously. A dialog box appears

on your screen asking for the file name to be used and the location to save into.

5. Retrieving or Opening Worksheet
To retrieve or open a worksheet, click on office button on the menu and click on Open button form the file sub-menu or by pressing Ctrl + O keys together. A dialog box will be displayed asking you to choose the worksheet to be opened or retrieve.

Formatting Worksheet
a. Changing column width
i. Pull down the Format Menu and select Column and then width
ii. Type the desired width in the space provided

b. Changing Row Height

i. Pull down the Format Menu and select Column and then width
ii. Type the desired height in the space provided

Adding Formulae and Performing Calculations

To tell the spreadsheet package that you will be entering a formula, you must start the formula with a particular symbol. Excel uses the sign = and lotus 1-2-3, uses the @, - or + signs.

The operators used in spreadsheet formulae include

Addition +

Subtraction -
Multiplication *
Division /
Exponentiation ^

Using Functions in Microsoft Excel

Sum Function
The sum function adds up the total values of a group of cells, depending on which cells you choose. The general form is:
=SUM(First cell:Last cell)

Average Function
This will compute the average of the values of a group of cells depending on which cells you choose. The general form is:
=AVERAGE(First cell:Last cell)

Count Function
This function will count the number of entries in the range from first cell to last cells you choose. The general form is:
=COUNT(First cell:Last cell)

Max Function
The max function is used to find the largest value in a set of values in the row or column. The general form is:
=MAX(First cell:Last cell)

Min Function

The Min function is used to find the smallest value in a set of values in a row or column. The general form is:
=MIN(First cell:Last cell)

Printing Worksheet

Printing a worksheet is not much different from printing a word processing document. To Print a Worksheet Click on office button, select print from the menu or by pressing ctrl + P keys simultaneously.

Creating Graphs

MS Excel gives options of creating charts from data entries in your spreadsheets. Charts like line graph, histogram, pie charts and bar charts could be created from the supplied data basically numeric data.

There are different parts of chart namely:
a. Legend: In a chart or graph in spreadsheet programs such as Excel, the legend is most often located on the right hand side of the chart or graph and can sometimes be surrounded by a border. The legend is linked to the data being graphically displayed in the plot area of the chart

b. Axis: As in normal mathematical operations every chart must carry axis i.e. axis X and Y, where X and Y stands for horizontal and vertical lines respectively which are displayed on data scale

c. Data series: These are set of numbers in either row or column.

All charts are created in the same way by selecting range of cells within a worksheet called chart range after which one selects chart wizard option.