## Spreadsheets

Spreadsheet applications are ideal to process numbers and carry out calculations. MS Excel is an example

MS Excel screen displays a grid of rectangles similar to a graph paper. This grid is known as a spreadsheet or worksheet - it is the primary document where you store and manipulate data. A worksheet is made up of vertical lines called columns and horizontal lines called rows. A group of worksheets make up a workbook.

Each column has a heading, consisting of one or two alphabet letters. Each row has a heading, consisting of a number. Each cell has a unique address known as its 'cell reference'.


## Entering Data in Cells

Worksheet cells can hold three kinds of data: labels, values and formulas.

- Labels - are text entries such as December or Zebbug or text/number combinations such as birth dates etc.
- Values - are numbers on which calculations will be performed.
- Formulas - are calculations involving two or more values (to be discussed later on).


## Using AutoFill Tool

Sometimes you find yourself entering data in a logical sequence such as days of the week, month names, numbers etc. The AutoFill feature logically repeats some series as indicated in the following table

| Data type | Starting series value |  |
| :--- | :--- | :--- |
| Quarter abbreviated | Qtr 3 | Qtr 4, Qtr 1, Qtr 2 |
| Month names | November | December, January |
| Month names abbreviated | Nov | Dec, Jan |
| Weekday | Saturday | Sunday, Monday |

## Formulae

Formulae allow you to perform calculations - addition, subtraction, multiplication and division - using values from any cell/s in a spreadsheet. You build formulae using the arithmetic operators:

$$
\begin{array}{|l|l|l|l}
\hline \text { The plus sign (+). } & \text { The minus sign (-). } & \text { The asterisk }(*) \text { for multiplication. } & \text { The slash (/) for division. }
\end{array}
$$

There are some basic rules associated with formulae:

- A formula always begins with an equal (=) sign.
- Cells are referenced in a formula by their column-row identifier, i.e. A1, B2 etc.
- The symbols for addition, subtraction, multiplication, and division are: + - */
- A formula cannot contain spaces.


## Examples

- Addition: =C5+C6+C7
- Subtraction: =C2-C8
- Multiplication: $=$ C10*8\%
- Division: =C8/3


## Arithmetic Functions

Functions, like formulae, allow you to perform calculations using values from any cell/s in a spreadsheet. You will use the following common functions:

| $\operatorname{sum}()$ | $\min ()$ | $\max ()$ | average( ) |
| :---: | :---: | :---: | :---: |

## Examples

- SUM: =sum(C5:C7)
- MINIMUM: $=\min (C 5: C 7)$
- MAXIMUM: $=\max (\mathrm{C5}: \mathrm{C7})$
- AVERAGE: =average(C5:C7)


## CHARTS

A chart/graph is a graphical representation of the numeric data in a worksheet.


The following are some of the different types of charts that one can create in spreadsheets.


