

UNIT-2 : ELECTRONIC SPREADSHEET (ADVANCED)**Session 1 : Analyze data using scenarios and goal seek****Consolidating data**

Data Consolidation allows you to gather together your data from separate worksheets into a master worksheet. In other words, the Data Consolidation function takes data from a series of worksheets or workbooks and summarizes it into a single worksheet that you can update easily.

The data from the consolidation ranges and target range are saved when you save the worksheet. If you later open a worksheet in which consolidation has been defined, this data will again be available. It is available under **Data menu->Consolidate option**

Creating subtotals.

SUBTOTAL is a function listed under the Mathematical category when you use the Function Wizard (**Insert > Function**). Because of its usefulness, the function has a **graphical interface**. It is accessible from Data menu

SUBTOTAL, totals/adds data arranged in an array—that is, a group of cells with labels for columns and/or rows. Using the Subtotals dialog, you can select arrays, and then choose a statistical function to apply to them. For efficiency, you can choose up to three groups of arrays to which to apply a function.

When you click OK, Calc adds subtotals and grand totals to the selected arrays, using the Result and Result2 cell styles for them. It is available under **Data -> Subtotals**

Scenarios

Scenarios are a tool to test “what-if” questions. Each scenario is named, and can be edited and formatted separately. When you print the spreadsheet, only the content of the currently active scenario is printed.

A scenario is essentially a saved set of cell values for your calculations. You can easily switch between these sets using the Navigator or a drop-down list which can be shown beside the changing cells.

For example, if you wanted to calculate the effect of different interest rates on an investment, you could add a scenario for each interest rate, and quickly view the results. Formulas that rely on the values changed by your scenario are updated when the scenario is opened. Available **Tools > Scenarios**

Creating scenarios

To create a scenario, select all the cells that provide the data for the scenario.

Tools > Scenarios

Goal Seek

Using Goal Seek option under Tools menu, you can discover what values will produce the result that you want.

Using Goal Seek

Tools > Goal Seek reverses the usual order for a formula. Usually, you run a formula to get the result when certain arguments are entered. By contrast, with Goal Seek, you work with a completed formula to see what values you need in an argument to get the results that you want.

Using the Solver

Tools > Solver amounts to a more elaborate form of Goal Seek. The difference is that the Solver deals with equations with multiple unknown variables. It is specifically designed to minimize or maximize the result according to a set of rules that you define.

Each of these rules sets up whether an argument in the formula **should be greater than, lesser than, or equal to the value you enter.**

If you want the argument to remain unchanged, you enter a rule that the cell that contains it should be equal to its current entry.

For arguments that you would like to change, you need to add two rules to define a range of possible values:

the limiting conditions : For example, you can set the constraint that one of the variables or cells must not be bigger than another variable, or not bigger than a given value. You can also define the constraint that one or more variables must be integers or binary values.

Session 2 : Link Data and Spreadsheets Using Multiple Workbooks and Linking Cells

Spreadsheet also allows you to link the cells from various worksheets and from various spreadsheets to summarize data from several sources. In this manner, you can create formulas that span different sources and make calculations using a combination of local and linked information.

Multiple sheets help keep information organized;

Setting up multiple sheets

Identifying sheets

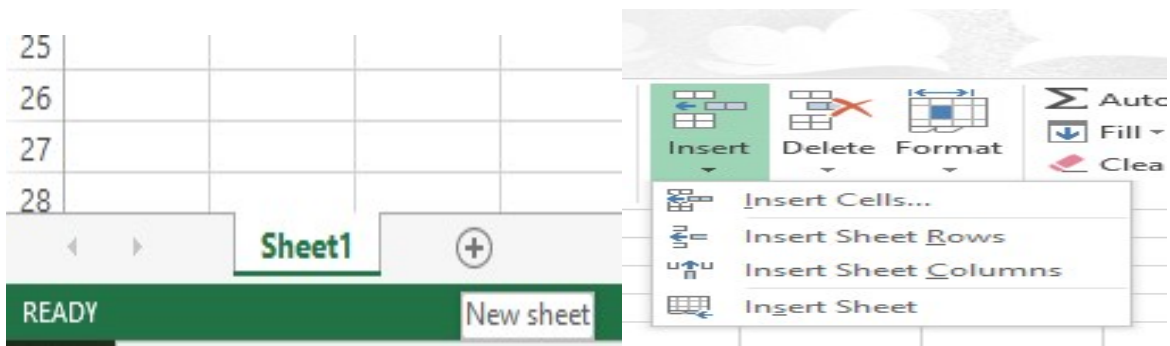
When you open a new spreadsheet it has, by default, it has a sheet named Sheet1 which is managed using tabs at the bottom of the spreadsheet, as shown below.

Inserting new sheets

There are several ways to insert a new sheet. The first step, in all cases, is to select the sheet that will be next to the new sheet. Then do any of the following:

Select the  plus icon at the bottom of the screen.

Or, select **Home > Insert > Insert Sheet**.



Renaming Worksheets

There are three ways you can rename a worksheet

1. **Double-click** on one of the existing worksheet names.
2. **Right-click** on an existing worksheet name, then choose Rename from the resulting Context menu.
3. Select the worksheet you want to rename (**click on the worksheet tab**) and then select the Sheet option from the Format menu. This displays a submenu from which you should select the Rename option.

Insert Sheet from different Spreadsheet

If you prefer, select the Link option to insert the external sheet as a link instead as a copy. This is one of several ways to include "live" data from another spreadsheet. The links can be updated manually to show the current contents of the external file; or, depending on the options you have selected in **Tools > Options > OpenOffice.org Calc**

> General > Updating, whenever the file is opened.

Create or change a cell reference

A cell reference refers to a cell or a range of cells on a worksheet and can be used to find the values or data that you want formula to calculate.

In one or several formulas, you can use a cell reference to refer to:

- Data from one or more contiguous cells on the worksheet.
- Data contained in different areas of a worksheet.
- Data on other worksheets in the same workbook.

Creating reference to other sheets

There are two ways to reference cells in other sheets: by entering the formula directly using the keyboard or by using the mouse.

Calc can link different files together. The process is the same, but we add one more parameter to indicate which file the sheet is in.

Creating The Reference With The Keyboard

Typing the reference is simple once you know the format the reference takes. The reference has three parts to it:

Path and filename . Sheet name . Cell name

The general format for the reference is

`=‘file:///Path &File Name’#$SheetName.CellName`

Working with Hyperlinks

Hyperlinks can be used in Calc to jump to a different location from within a spreadsheet and can lead to other parts of the current file, to different files or even to web sites.

Relative And Absolute Hyperlinks

Hyperlinks can be stored within your file as either relative or absolute. An absolute link will stop working only if the target is moved. A relative link will stop working only if the start and target locations change relative to each other. For instance, if you have two spreadsheets in the same folder linked to each other and you move the entire folder to a new location, a relative hyperlink will not break.

To change the way that OOO saves the hyperlinks in your file, select **Tools > Options > Load/Save > General** and choose if you want URLs saved relatively when referencing the File System, or the Internet, or both. You can insert and modify links using the **Hyperlinkdialog**. To display the dialog, click the **Hyperlink** icon on the Standard toolbar or choose **Insert > Hyperlink** from the menu bar. To turn existing text into a link, highlight it before opening the Hyperlink dialog.

Linking To External Data

You can insert tables from HTML documents, and data located within named ranges from an OpenOffice.org Calc or Microsoft Excel spreadsheet, into a Calc spreadsheet

You can do this in two ways: using the External Data dialog or using the Navigator.

Insert -> Link to External Data.

Tools -> Options -> OpenOffice.org Base -> Databases

Session 3 : Sharing Worksheet Data

In most office settings, there is a shared drive where teams can store common files for everyone to use. This usually leads to sighting of the message:

"The document [file name] is locked for editing by another user. To open a read-only copy of this document, click"!!

This message appears because someone else already has the file open. Sometimes however, it is necessary to have multiple people working on a file at the same time. This can be to either speed up data entry or simply make things easier for collaboration purposes.

Spreadsheet software allows the user to share the workbook and place it in the network location where several users can access it simultaneously. In this exercise, you will learn how to share a worksheet.

Now to share the spreadsheets do the following.

At any time, you can set up a spreadsheet for sharing with others. With the spreadsheet document open, choose **Tools > ShareDocument** to activate the collaboration features for this worksheet. A dialog opens where you can choose to enable or disable sharing.

When you save a shared spreadsheet, one of several situations may occur:

- If the worksheet was not modified and saved by another user since you opened it, the worksheet is saved.

If the worksheet was modified and saved by another user since you opened it, one of the following events will occur:

- If the changes do not conflict, the worksheet is saved, the dialog below appears, and any cells modified by the other user are shown with a red border.

- If the changes conflict, the Resolve Conflicts dialog is shown. You must decide for each conflict which version to keep, yours or the other person's. When all conflicts are resolved, the worksheet is saved. While you are resolving the conflicts, no other user can save the shared worksheet.

- If another user is trying to save the shared worksheet and resolve conflicts, you see a message that the shared spreadsheet file is locked due to a merge-in in progress. You can choose to cancel the Save command for now, or retry saving later. When you successfully save a shared spreadsheet, the worksheet shows the latest version of all changes that got saved by all users.

Calc has the feature to track what data was changed, when the change was made, who made the change and in which cell the change has occurred. **Edit > Changes > Record from the menu bar.** A colored border, with a dot in the upper left-hand corner, appears around a cell where changes were made. Other reviewers then quickly know which cells were edited. A

deleted column or row is marked by a heavy colored bar.

Calc automatically adds to any recorded change a comment describing what was changed (for example, Cell B4 changed from '9'to '4'). Reviewers and authors can add their comments to explain their changes. Edit > Changes > Comments.

When you receive a worksheet back with changes, the beauty of the recording changes system becomes evident. Now, as the original author, you can step through each change and decide how to proceed. To begin this process: [Edit > Changes > Accept or Reject](#) When sharing worksheets reviewers may forget to record the changes they make. This is not a problem with Calc because Calc can find the changes by comparing worksheets. In order to compare worksheets you need to have the original worksheet and the one that is edited. Edit > Compare Document.

Session 4 : Create and use Macros in Spreadsheet

A macro is a saved sequence of commands or keystrokes that are stored for later use.

An example of a simple macro is one that "types" your address. The OpenOffice.org (OOo) macro language is very flexible, allowing automation of both simple and complex tasks.

Macros are especially useful to repeat a task the same way over and over again. Tools > Macros > Record Macro