

NIELIT Gorakhpur

Course Name: O Level (1st Sem)

Subject: ITTNB

Topic: what-if analysis, Pivot table & Charts

Date: 18-06-2020

Libreoffice [Calc]

what-if analysis :- Usually, user create a formula to calculate a result based upon existing data. LibreOffice Calc includes tools to help to user experiment and answer questions with their own data, even when the data is incomplete. Here user will learn how to use a what-if analysis tool called Goal Seek. For example

A student tracks his final exam grades in school using a spreadsheet shown in the image below. So far he has received all grades for each subject except the one marked with a question mark..

Subject	Grade
Math	74
Language	85
Science	40
Physical Edu	65
French	35
Music	82
Arts	55
Information Technology	?
Average	62,29

Currently the average grade is 62 but he needs at least a 65 to pass the class. What is the minimum score he must achieve in the Information Technology exam in order to pass the class? Instead of manually trying random values he can use Goal Seek to find out what grade he needs on the final exam to pass.

Using what-if analysis :- Here need three parameters

- The formula cell. This is the cell contains the formula we want to resolve
- The target value. The required value that we want our formula to to resolve.
- The variable cell. The cell that contains the unknown data that we want to find a value that meets the requirements.

	B	C	D
	Subject	Grade	
	Math	74	
	Language	85	
	Science	40	
	Physical Edu	65	
	French	35	
	Music	82	
	Arts	55	
	Information Technology	?	← Variable Cell
	Average	62,29	← Formula Cell

To use what-if analysis

Fill the cell with the unknown data with a 0 (or any other value). The Average will change but ignore it.

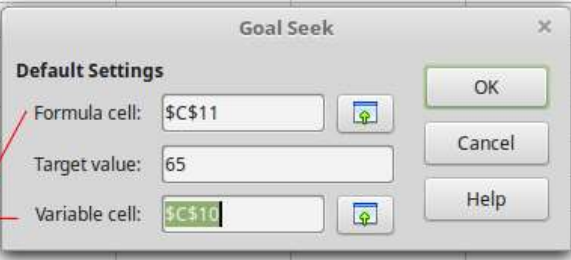
	Music	82
	Arts	55
	Information Technology	0
	Average	54,50

Normally we would not need to do this but it seems to be a bug in LibreOffice Calc that crashes Goal Seek tool when the value cell is empty.

2. Select the cell containing the Formula (in our example the Average grade) and **Choose Tools > Goal Seek** from the main menu.

3. In the Goal Seek dialog window fill in the parameters. The Formula cell is already filled in. Type in the **Target value** and click the **Variable cell** to autofill the cell reference value in the dialog.

Subject	Grade
Math	74
Language	85
Science	40
Physical Edu	65
French	35
Music	82
Arts	55
Information Technology	0
Average	54,50

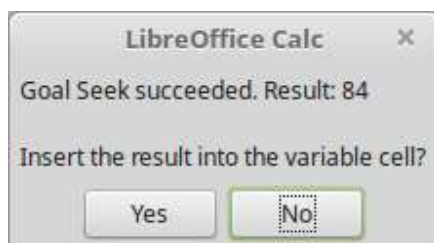


The Goal Seek dialog box is open, showing the following settings:

- Formula cell: \$C\$11
- Target value: 65
- Variable cell: \$C\$10

Buttons: OK, Cancel, Help

4. Goal Seek now calculates and displays the Result in another pop up dialog. Choose Yes to insert the result to the variable cell



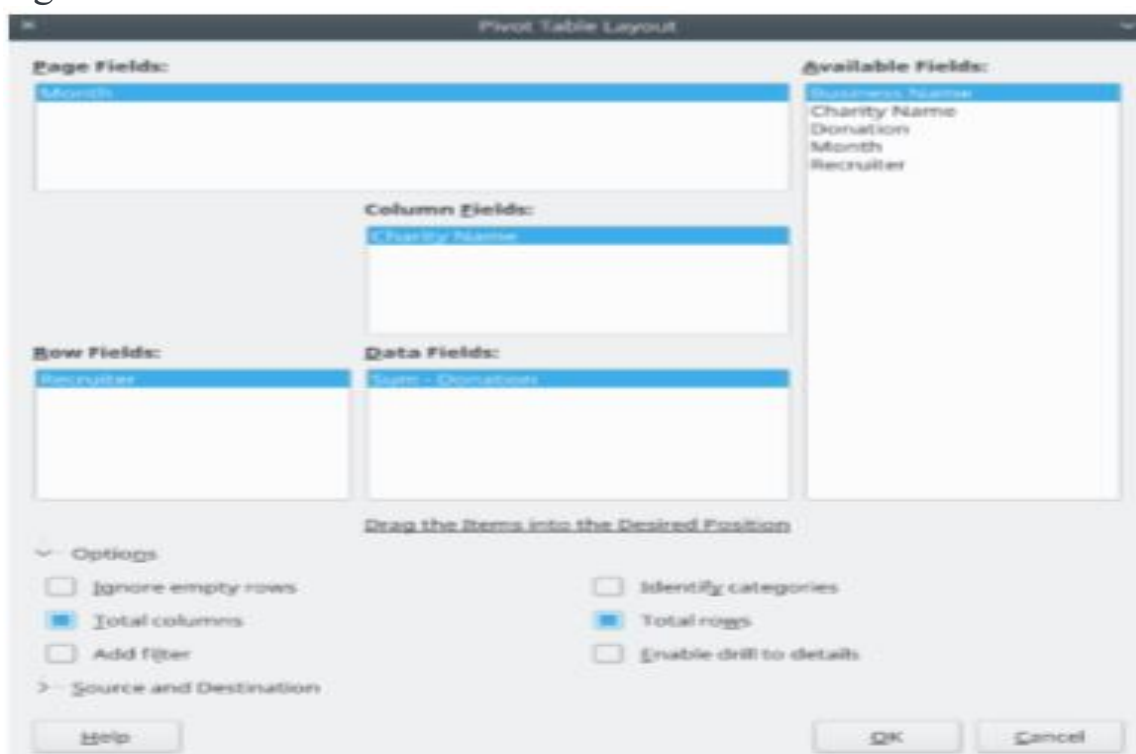
Now the student knows that he must achieve a grade **84** or greater in the IT exam in order to pass the course.

Subject	Grade
Math	74
Language	85
Science	40
Physical Edu	65
French	35
Music	82
Arts	55
Information Technology	84
Average	65,00

Pivot tables

A pivot table is a way to organize, manipulate, and summarize large amounts of data to make it much easier to read and understand while also

allowing you to answer different questions about your spreadsheet by rearranging --or pivoting-- the data you enter into it. For example, let's say that you have a spreadsheet containing a list of donations to various charities by a group of recruiters in various months, but you are only interested in how much money each recruiter has collected in total. To determine your solution, you could manually calculate that amount by using the sorting and formatting options provided by Calc. Alternatively, you could arrange a pivot table as shown below to make that data easier to organize and read.



To access the pivot table creation dialog, choose Insert > Pivot Table or Data > Pivot Table > Create from the Menu bar. The Pivot Table Layout dialog will intelligently guess the column headings from the provided raw data and insert them into the Available Fields selection box. From there, you can drag and drop your desired information into column, row, or page fields to organize accordingly and press OK to view the results. To choose new information to display, or to alter the layout of the existing information, right-click anywhere in the existing pivot table to bring up the context menu and choose Edit Layout.

Charts (Bar, Pie, Line)

A chart is a visual representation of numeric values. Charts (also known as graphs) have been an integral part of spreadsheets. LibreOffice Calc supports wide variety of charts like Bar, Pie, Line etc.

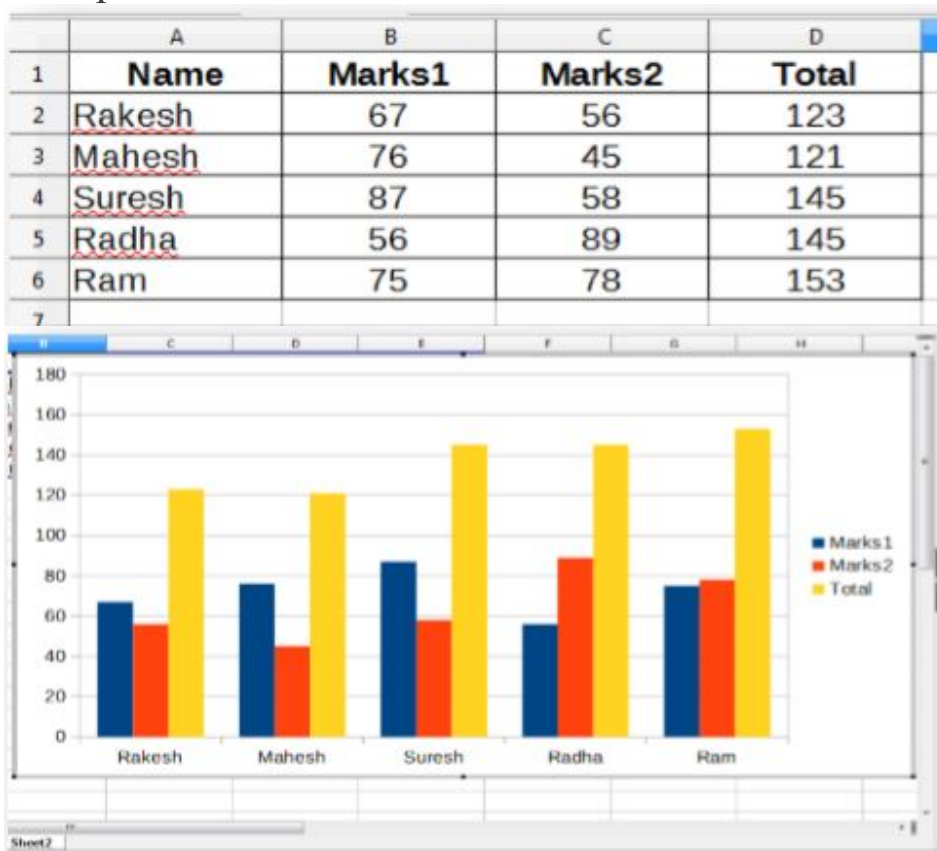
Steps for inserting Chart:

- Type and select the data for which you want to insert chart
- Click on Insert Menu
- Click Chart
- Choose chart of your choice and click Finish button
- Chart will be inserted.

Bar Chart:

A bar chart illustrates comparisons among individual items. A bar chart (also called a bar graph) is a way to visually display certain types of information, such as changes over time or differences in size, volume, or amount. Bar charts can be horizontal or vertical. The vertical version is referred to as column chart.

Example of Bar/Column Chart:

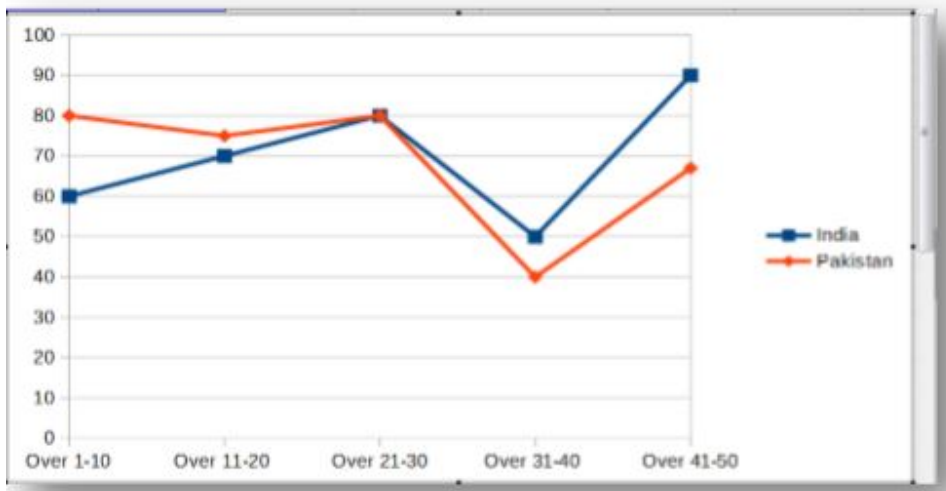


Line Chart:

A line chart shows trends in data at equal intervals. It shows series of points connected by a straight line.

Example of Line Chart:

	A	B	C
1		India	Pakistan
2	Over 1-10	60	80
3	Over 11-20	70	75
4	Over 21-30	80	80
5	Over 31-40	50	40
6	Over 41-50	90	67

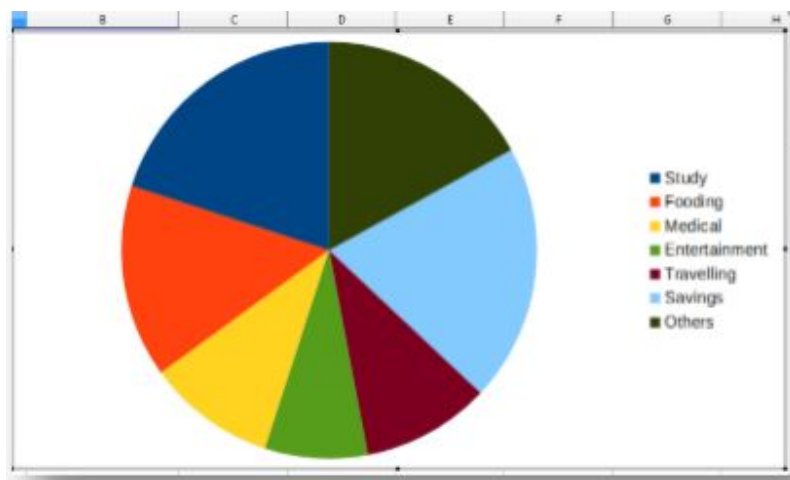


Pie Chart:

A pie chart shows the size of items that make up a data series, proportional to the sum of the items. Pie charts are used to display the contribution of each value (slice) to a total (pie). Pie charts always use one data series.

Example of Pie chart:

	A	B
1	Expenditure	Percentage
2	Study	20%
3	Fooding	15%
4	Medical	10%
5	Entertainment	8%
6	Travelling	10%
7	Savings	20%
8	Others	17%



Assignment:-

- 1- What is Pivot table in LibreOffice calc?
- 2- Explain What is Goal Seak in LibreOffice calc.