

Unit 1 Spreadsheet Package

Introduction to Spreadsheet:

A spreadsheet is the computer equivalent of a paper ledger sheet. It consists of a grid made from columns and rows. It is an environment that can make number manipulation easy and somewhat painless. It is used to create and format spreadsheets.

Features of Spreadsheet:

- Allows users to work in Table format.
- Allows to insert and to delete rows, columns and sheets.
- You can apply auto-fillers.
- Allows working with database means sorting, filtering, applying database functions etc. But it is a flat database.
- Allows the facility of chart.
- You can Import and Export files.
- Allows applying no. of functions and formulas.

Spreadsheets, sheets and cells

Calc works with elements called *spreadsheets*. Spreadsheets consist of a number of individual *sheets*, each containing a block of cells arranged in rows and columns.

These cells hold the individual elements—text, numbers, formulas etc.—which make up the data to be displayed and manipulated.

Each spreadsheet can have many sheets and each sheet can have many individual cells. Each sheet in Calc can have a maximum of 65,536 rows and a maximum of 245 columns (A through IV). This gives 16,056,320 individual cells per sheet.

Parts of the main Calc window

When Calc is started, the main window looks similar to Figure 1.

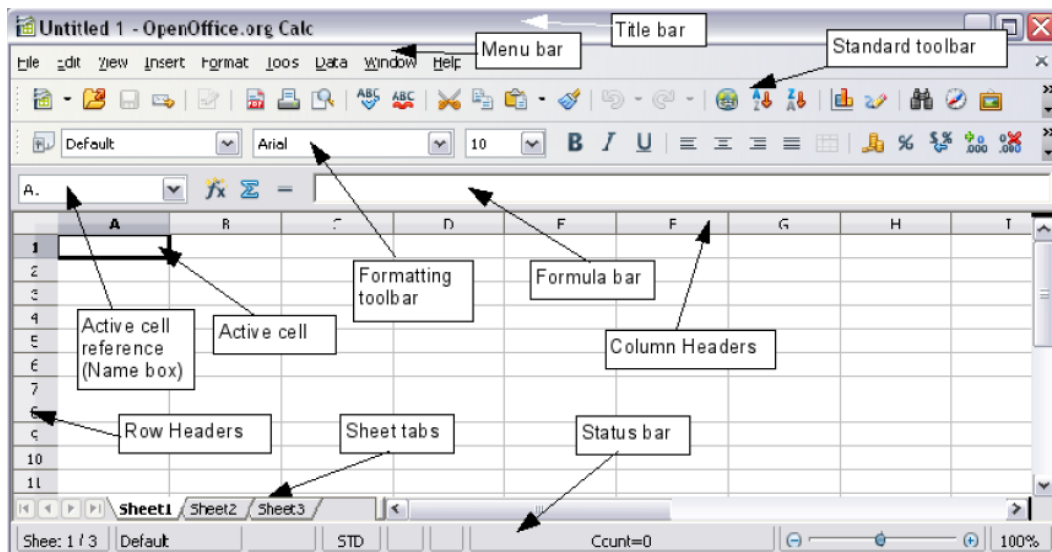


Figure 1: Parts of the Calc window.

Formula bar

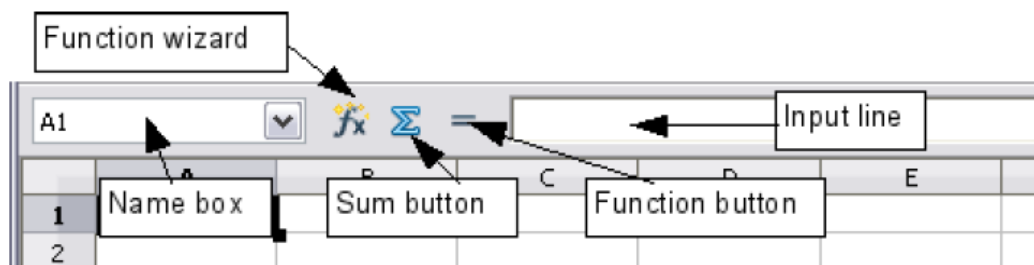


Figure 3. Formula Bar.

Sheet tabs



Figure 4. Sheet tabs.

Starting new spreadsheets

From the menu bar

Click **File** and then select **New > Spreadsheet**.

From the keyboard

If you already have a spreadsheet open, you can press *Control+N* to open a new spreadsheet.

Opening existing spreadsheets**From the menu bar**

Click **File** and then select **Open**.

From the toolbar

Click the **Open** button  on the Standard toolbar.

From the keyboard

Use the key combination *Control+O*.

Each of these options displays the Open dialog box, where you can locate the spreadsheet that you want to open.


Saving spreadsheets

Spreadsheets can be saved in three ways.

From the menu bar

Click **File** and then select **Save**.

From the toolbar

Click on the **Save** button  on the Function bar. This button will be greyed-out and unselectable if the file has been saved and no subsequent changes have been made.

From the keyboard

Use the key combination *Control+S*.

Moving from cell to cell

Tip: Holding down *Alt+Cursor key* **resizes a cell**.

Table 1. Moving from cell to cell using the keyboard

Key Combination	Movement
→	Right one cell
←	Left one cell

↑	Up one cell
↓	Down one cell
Control+→	To last column containing data in that row or to Column IV
Control+←	To first column containing data in that row or to Column A
Control+↑	To first row containing data in that column or to Row 1
Control+↓	To last row containing data in that column or to Row 32000
Control+Home	To Cell A1
Control+End	To lower right hand corner of the square area containing data
Alt+PgDn	One screen to the right (if possible)
Alt+PgUp	One screen to the left (if possible)
Control+PgDn	One sheet to the right (in Sheet Tabs)
Control+PgUp	One sheet to the left (in Sheet Tabs)
Tab	To the cell on the right
Shift+Tab	To the cell on the left
Enter	Down one cells
Shift+Enter	Up one cell

Working with columns and rows

Inserting columns and rows

Single column or row

A single column or row can be added using the **Insert** menu:

1. Select the column or rows where you want the new column or row inserted.
2. Select either **Insert > Columns** or **Insert > Rows**.

Deleting columns and rows

Single column or row

A single column or row can only be deleted by using the mouse:

1. Select the column or row to be deleted.
2. Right-click on the column or row header.
3. Select **Delete Column** or **Delete Row** from the pop-up menu.

Working with sheets

Inserting new sheets

- Click on the **Insert** menu and select **Sheet**, or
- Right-click on its tab and select **Insert Sheet**, or
- Click into an empty space at the end of the line of sheet tabs (see Figure 11).

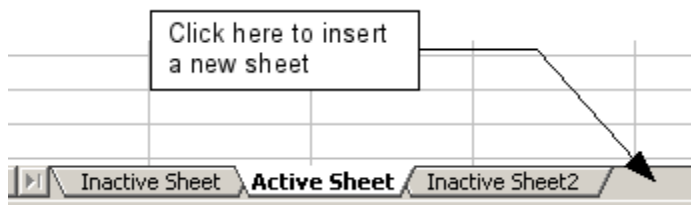


Figure 11. Inserting a new sheet

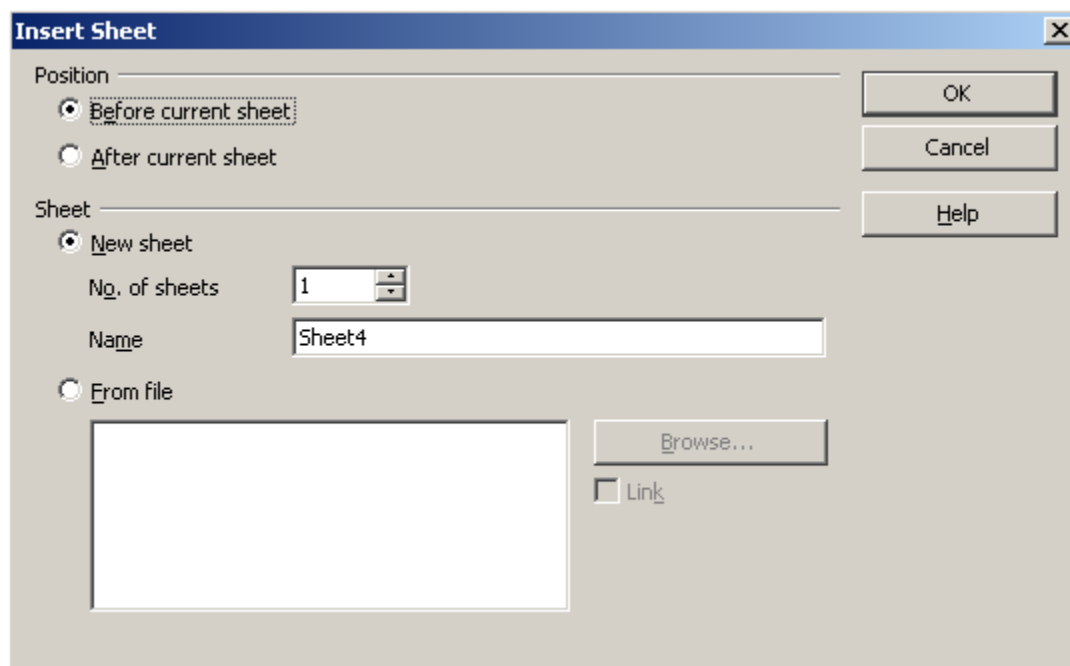


Figure 9. Insert Sheet dialog box.

Deleting sheets

Single sheet

Right-click on the tab of the sheet you want to delete and select **Delete Sheet** from the pop-up menu, or click Edit > Sheet > Delete from the menu bar.

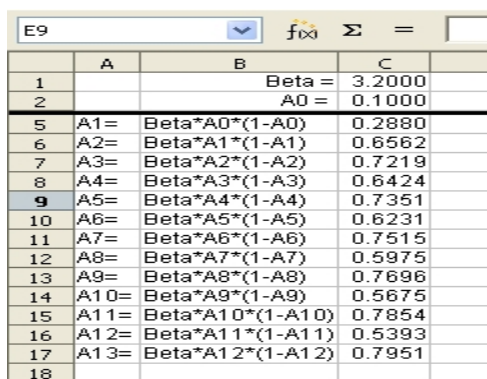
Renaming sheets

To give a sheet a more meaningful name, you can:

- Right-click on a sheet tab and select **Rename Sheet** from the pop-up menu and replace the existing name with a better one.

Splitting the window

Another way to change the view is by splitting the window - otherwise known as splitting the screen. The screen can be split either horizontally or vertically or both. This allows you to have up to four portions of the spreadsheet in view at any one time.



	A	B	C
1		Beta =	3.2000
2		A0 =	0.1000
5	A1=	Beta*A0*(1-A0)	0.2880
6	A2=	Beta*A1*(1-A1)	0.6562
7	A3=	Beta*A2*(1-A2)	0.7219
8	A4=	Beta*A3*(1-A3)	0.6424
9	A5=	Beta*A4*(1-A4)	0.7351
10	A6=	Beta*A5*(1-A5)	0.6231
11	A7=	Beta*A6*(1-A6)	0.7515
12	A8=	Beta*A7*(1-A7)	0.5975
13	A9=	Beta*A8*(1-A8)	0.7696
14	A10=	Beta*A9*(1-A9)	0.5675
15	A11=	Beta*A10*(1-A10)	0.7854
16	A12=	Beta*A11*(1-A11)	0.5393
17	A13=	Beta*A12*(1-A12)	0.7951
18			

Figure 15. Split screen example.

Splitting the screen horizontally

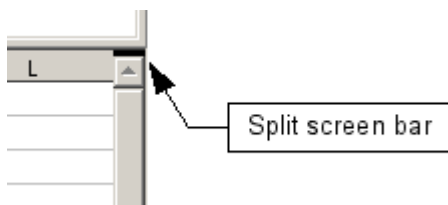


Figure 16. Split screen bar on vertical scroll bar.

[insert fig 17]

Splitting the screen vertically

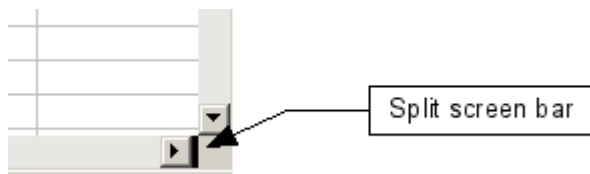


Figure 18: Split bar on horizontal scroll bar.

Note: Splitting the screen horizontally and vertically at the same time will give four views, each with its own vertical and horizontal scroll bars.

Removing split views

- Double-click on each split line, or
- Click on and drag the split lines back to their places at the ends of the scroll bars, or
- Select **Window > Split**. This will remove all split lines at the same time.

Tip: You can also split the screen using a menu command. Click in a cell that is immediately below and immediately to the right of where you wish the screen to be split, and choose **Window > Split**.

Definition**1. Workbook:**

When user opens Calc and creates a new file, this file is known as Workbook. Workbook is same as notebook which contains no. of worksheets. Initially it contains three worksheets. User can add more worksheets in this workbook.

2. Worksheet:

Each page in the workbook is called Worksheet. Worksheet is a grid of rows and columns. User can delete, can rename, can rearrange and can insert worksheet. Minimum one worksheet is required in one workbook.

3. Row:

Row is a horizontal group of cells, which is labeled with numbers. More than 10,00,000 rows are there in each worksheet.

4. Column:

Column is a vertical group of cells, which is labeled with letters. Maximum 16,384 columns are there in each worksheet

5. Cell:

Cell is the intersection of row and column. It is a basic element in which user can enter the data. Each cell may contain label, Constant value, function or formula.

6. Range:

Range is a rectangular group of cells, which may contains no. of rows and no. of columns. It is defined by the first cell's address and the last cell's address separated by Colon. Ex: A1 : D5.

7. Cell Address:

Address is the location of cell, which is defined by Column and row. Ex: A14 where the first cell's address is A1.

Cell References / Addresses / Types

Relative Reference

By default, oo spreadsheet uses **relative reference**. See the formula in cell D2 below. Cell D2 references (points to) cell B2 and cell C2. Both references are relative.

COUN...	X	✓	<i>fx</i>	=B2*C2					
	A	B	C	D	E	F	G	H	I
1	Product	Quantity	Price	Amount					
2	bread	2	1.5	=B2*C2					
3	butter	1	1.2						
4	cheese	3	2						
5	ham	3	1.8						
6									
7									

1. Select cell D2, click on the lower right corner of cell D2 and [drag](#) it down to cell D5.

COUN...	X	✓	<i>fx</i>	=B5*C5					
	A	B	C	D	E	F	G	H	I
1	Product	Quantity	Price	Amount					
2	bread	2	1.5	3					
3	butter	1	1.2	1.2					
4	cheese	3	2	6					
5	ham	3	1.8	=B5*C5					
6									
7									

Cell D3 references cell B3 and cell C3. Cell D4 references cell B4 and cell C4. Cell D5 references cell B5 and cell C5. In other words: each cell references its two neighbors on the left.

Absolute Reference

See the formula in cell E3 below.

1. To create an **absolute reference** to cell H3, place a \$ symbol in front of the column letter and row number of cell H3 (\$H\$3) in the formula of cell E3.

COUN...	X	✓	fx	=B3*\$H\$3					
	A	B	C	D	E	F	G	H	I
1									
2		Length (cm)	Width (cm)		Length (inch)	Width (inch)		Conversion rate	
3		1	10		=B3*\$H\$3			0.3937008	
4		5	10						
5		4	8						
6		2	10						
7									
8									

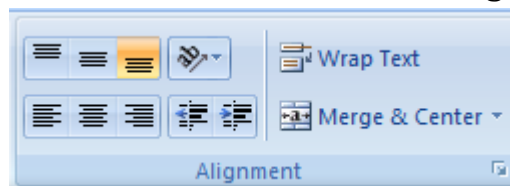
2. Now we can quickly drag this formula to the other cells.

COUN...	X	✓	fx	=C6*\$H\$3					
	A	B	C	D	E	F	G	H	I
1									
2		Length (cm)	Width (cm)		Length (inch)	Width (inch)		Conversion rate	
3		1	10		0.3937008	3.937008		0.3937008	
4		5	10		1.968504	3.937008			
5		4	8		1.5748032	3.1496064			
6		2	10		0.7874016	=C6*\$H\$3			
7									
8									

The reference to cell H3 is fixed (when we drag the formula down and across). As a result, the correct lengths and widths in inches are calculated.

Cell Alignment

To apply alignment to the cell, select Home Tab + Alignment group.



1. Horizontal Alignment:

There are three types of horizontal alignments available in calc which are

- Top: To write text in top of the cell.
- Bottom: To write text in the bottom of the cell.
- Middle.: To write text in the middle of the cell.

2. Vertical Alignment:

There are three types of vertical alignments available in Calc which are:

- Left: To write text to the left side in the cell.
- Right: To write text to the right side in the cell.
- Center: To write text in the center of the cell.

3. Wrap Text: It breaks up the long text into several lines within the cell. The width of the cell is not changed but the height of the cell may be changed.
4. Merge & Center: It combines numbers of cells into one cell.
5. Shrink to fit: It adjusts the size of the text so it fits within the same cell in a single line. The width and height of the cell is not changed.

Functions:

Counting Functions

➤ COUNT (range)

COUNT() counts the cells which contain number, date or time. It doesn't count logical, text, errors, and empty cells.

See the example given below.

	A	B	C	D	E	F
1	123	TRUE	#DIV/0!		12/12/2007	12:30 AM
2	BBA		FALSE	23	#NAME?	195
3	45	12	34	10	20	29

Ex: =COUNT(A1:F1) Ans: = 3
 =COUNT(A2:F2) Ans: = 2

➤ COUNTA (range)

COUNTA() counts the cells which contain the value (Number, Date, Time, Text, Logical, Errors). It doesn't count empty cells.

Ex: =COUNTA(A1:F1) Ans: 5
 =COUNTA(A2:F2) Ans: 5

➤ COUNTBLANK (range)

COUNTBLANK() counts only blank cells.

Ex: =COUNTBLANK(A1:F1) Ans: 1
 =COUNTBLANK(A2:F2) Ans: 1

➤ COUNTIF (range, criteria)

COUNTIF() counts only those cells which satisfy the given criteria. Criteria means the condition which we want to apply.

Ex: =COUNTIF(A3:F3;"<20") Ans: 2
 =COUNTIF(A3:F3;">=20") Ans: 4

Mathematical Functions:

	1	2	3	4	5
A	12	24	10	16	2

➤ **SUM(no1; no2; ...no255)**

SUM() is used to do the addition of given numbers. Here user can pass maximum 255 numbers individually. In place of numbers user can also mention the ranges.

Ex:

=SUM(12;24;10;16;2) Ans:64

=SUM(a1:a5) Ans:64

➤ **AVERAGE(no1;no2; no3;...; no255)**

AVERAGE() is used to calculate the average of the given numbers.

Ex: =AVERAGE(a1:a5) =64/5 =12.8

➤ **MAX(no1;no2; no3;...; no255)**

This function returns the maximum of the given numbers.

Ex: = MAX (a1:a5) = 24

➤ **MIN(no1; no2; no3;...; no255)**

This function returns the minimum of the given numbers.

Ex: = MIN (a1:a5) = 2

➤ **PRODUCT(no1;no2; no3;...; no255)**

This function returns the multiplication of the given numbers.

Ex: = PRODUCT (a1; a3; a5) =240

➤ **SQRT(no)**

This function returns the square root of the given number. If the given no. is negative then it returns an error (#NUM?)

Ex: = SQRT(25) = 5

= SQRT(-25) = #NUM?

➤ **MOD(no; divisor)**

This function returns the remainder left over when the no. is divided by the Divisor argument.

Ex: = MOD (9; 2) =1

= MOD (9; 0) = #DIV/0!

➤ **INT(no)**

This function converts the no. into previous integer no.

Ex: =INT(1.45)=1
 =INT(-5.37) = -6

➤ **TRUNC(no)**

This function removes the decimal point.

Ex: =TRUNC(1.45)=1
 =TRUNC(-5.37) = -5

➤ **EVEN(no)**

This function round the no. to the next even No.

Ex: =EVEN(12.45)=14

➤ **ODD(no)**

This function round the no. to the next odd No.

Ex: =ODD(12.45)=13

➤ **ABS(no)**

This function returns the result of the absolute value. This function converts the negative number into positive and positive no. remains as it is.

Ex. =ABS(-35) =35
 =ABS(35)=35

➤ **SIGN(no)**

This function returns the sign of the given no. It returns:

1 if the no. is positive
-1 if the no. is negative
0 if the no. is Zero.

Ex: = SIGN(-12) = -1
 = SIGN (12) = 1
 = SIGN (0) = 0

➤ **CEILING (NO;SIGNIFICANT)**

Returns the number rounded up, away from zero, to the nearest & multiple of significance.

Ex: CEILING(2.5;1)=3

➤ **FLOOR(NO;SIGNIFICANT)**

Rounds number down towards zero, to the nearest multiple of significance.

EX: FLOOR(2.5;1) =2

Date and Time Functions

➤ **NOW()**

This function returns the system date and time based on the format
“mm/dd/yy hh:mm AM/PM”

Ex: =NOW() =07/24/10 10:30 PM

➤ **TODAY()**

This function returns the system date based on the format:
“mm/dd/yy”.

Ex: =TODAY() =07/24/10

➤ **DATE(year-month- date)**

This function returns the date of given data.

Year argument must be of two or of four digits.

Month argument must be <=12

Date argument must be the proper date.

Ex: =DATE (“2010- 08- 20”) =08/20/10

➤ **TIME(hour; minute; second)**

This function returns time based on the given data.

Hour argument must be in between 0 to 23. If it is in between 0 to 12 then it is considered as A.M. otherwise P.M.

Minute argument and Second argument must be in between 0 to 59

Ex: =TIME (11; 05; 20) = 11: 05 A.M.

=TIME (21; 05; 20) =09: 05 P.M.

➤ **WEEKDAY (date; type)**

This function returns day of the week of the given date.

Type: 0/1 1 for Sunday, . . . , 7 for Saturday.

2 1 for Monday, ... , 7 for Sunday.

3 0 for Monday, ... , 6 for Sunday.

Ex: =WEEKDAY (“08/01/2010”; 1) = 1

=WEEKDAY (“08/01/2010”; 2) = 7

➤ **YEAR (date)**

This function returns the year value of the given date.

Ex: =YEAR("2022-12-23")=2022

➤ **MONTH (date)**

This function returns the month value of the given date.

Ex: =MONTH("2022-12-23")=12

➤ **DAY (date)**

This function returns the date value of the given date.

Ex: =DAY("2022-12-23")=23

➤ **HOUR (time)**

This function returns the hour value of the given time.

returns the hour of time as a number, 0 - 23.

Ex: =HOUR(" 21:30:15") =21

➤ **MINUTE (time)**

This function returns the minute value of the given time.

Ex: =MINUTE(" 21:30:15") =30

➤ **SECOND (time)**

This function returns the second value of the given time.

Ex: =SECOND(" 21:30:15") =15

➤ **DAYS360 (date1, date2)**

This function returns how many days are there in between given two date.

Ex: =DAYS360("2008-02-29"; "2008-08-31") =180

Text Functions

➤ **LEN (text)**

This function is used to calculate the length of the given text.

Ex: =LEN("Stark") = 5

➤ **LOWER (text)**

This function is used to convert the capital letters into small letters.

Ex: =LOWER("STARK") =stark

➤ **UPPER (text)**

This function is used to convert the small letters into capital letters.

Ex: =UPPER("stark") =STARK

➤ **PROPER (text)**

This function is used to convert the first letter of each word into capital letter and all the other letters into small letters.

Ex: =PROPER("tony stark") = Tony Stark

➤ **LEFT (text; no)**

This function is used to select the part of the given text from the left hand side based on the no. argument.

Ex: =LEFT("Stark";3) = Sta

➤ **RIGHT (text; no)**

This function is used to select the part of the given text from the right hand side based on the no. argument.

Ex: =RIGHT("Stark";3) = ark

➤ **MID (text; start_no; no_char)**

This function is used to select the part of the text from the middle of the text based on the start_no and no_char arguments.

Ex: =MID("Tony Stark";2;6) = ony St

➤ **FIND (find_text; org_text; start_no)**

This function is used to find the text from another text. This function returns the starting position of the find_text in the org_text. It is case sensitive.

Start_no. argument is used to specify the starting position from where you want to start searching.

Ex: =FIND("o"; "computer application";5)=19

➤ **SEARCH(find_text;within_text;start_no):-**

Returns the position of a string of text within another string.

Syntax: SEARCH(findtext; texttosearch; startposition)

returns the character position of the first occurrence of findtext within texttosearch.

startposition (optional) is the position from which the search starts.(By default search start from 1 position)

The search is not case-sensitive.

Wild Card is allowed in Search:

The "." stands for any single character in a regular expression.

Ex: =SEARCH("m.u";"Computer application";1) = 5

The "*" stands for any number of character in a regular expression.

Ex: =SEARCH("m*t";"Computer application";1) = 6

➤ **REPLACE (org_text; start_no; no_char; new_text)**

This function is used to replace the part of the original text with the new text. This function replaces the text location wise.

Ex:=REPLACE("Computer Application"; 10;11;"Science")
=Computer Science

➤ **SUBSTITUTE(org_text;Old_text;New-Text;Instance_No)**

This function replace the part of original text with new text this function replace the text wise.

Ex: SUBSTITUTE("Computer Application"; "Application"; "Science")
=Computer Science

Here the instance number is used to specify which occurrence of old text you want to replace with new text (Its optional, if it is omitted then all occurrence of old text will be changed).

Ex: SUBSTITUTE("Computer application";"P";"p";1) =Computer application

➤ **REPT(Text;no_item)**

This function repeats the text given number of times if no_item argument is zero then it returns blank

Ex: =REPT("";3)=***
=REPT("NS";4)=NSNSNSNS

➤ **CONCATENATE(text1; text2...;text255)**

This function combines more than one text into one text. In place of this function you can use "&" operator.

Ex: CONCATENATE ("Net";"Salary") ="Net" & "Salary" = NetSalary

Logical Functions

➤ **TRUE()**

This function returns the logical value TRUE.

Ex =TRUE() =TRUE

➤ **FALSE()**

This function returns the logical value FALSE.

Ex = FALSE () = FALSE

➤ **NOT(condition)**

This function reverses the result of the given condition.

Means NOT(TRUE) =FALSE & NOT(FALSE) =TRUE

Ex: =NOT(34<54) =FALSE
=NOT(34>54) =TRUE

➤ **AND (cond1; cond2; ..; cond255)**

This function returns TRUE if all its conditions are TRUE otherwise it returns

FALSE.

Ex: AND(12<20; 12>04; 40<69) = TRUE
 AND(12<20;12<04; 40<69) = FALSE

➤ **OR (cond1; cond2; ... ; cond255)**

This function returns FALSE if all its conditions are FALSE otherwise it returns

TRUE.

Ex: OR(12<20; 12>04; 40<69) = TRUE
 OR(12<20; 12<04; 40<69) = TRUE
 OR(12>20; 12<04; 40=69) = FALSE

➤ **EXACT(text1; text2)**

This function compares given two text. If they are exactly matched then this function returns TRUE otherwise it returns FALSE. This function is case sensitive.

Ex: =EXACT ("Computer"; "BBA") = FALSE
 =EXACT ("BBA" ; "BBA") = TRUE

➤ **IF (condition; true_value; false_value)**

This function evaluates true_value if the given condition is TRUE otherwise it evaluates false_value.

Ex: =IF(A1<50; "Minimum"; "Maximum")
 A1=35 Ans= Minimum
 A1=65 Ans= Maximum

Nested IF condition:

We can use one IF condition within another IF condition that is known as Nested IF condition

Ex: the percentage is >=70 Dist
 >=60 First
 >=50 Second
 >=40 Pass
 Otherwise Fail

Then the condition becomes:

=IF (A1>=70; "Dist"; IF(A1>=60; "First"; IF (A1>=50; "Second"; IF (A1>=40;"Pass"; "Fail"))))

Statistical Functions

➤ **MEDIAN (no1; no2;...;no30)**

It returns the middle values from given nos.

Ex: =MEDIAN (4; 5; 2; 3; 7) = 4
 =MEDIAN (4; 5; 2; 3) = 3.5

➤ **MODE (no1; no2;...;no30)**

This function returns the value which repeats no. of time. If there is no duplicate no. then it returns an error

Ex: =MODE (1; 2; 3; 3; 4) = 3
 =MODE (1; 2; 3; 4) = #N/A

➤ **RAND()**

It generates the random number between 0 to 1. This function doesn't contain any argument.

Ex: =RAND() Ans: 0.3945 (Any number between 0 to 1)

Ex: =RAND()*100 Ans: 0.5435*100=54.35 (Any number between 0 to 100)

Sorting Data:

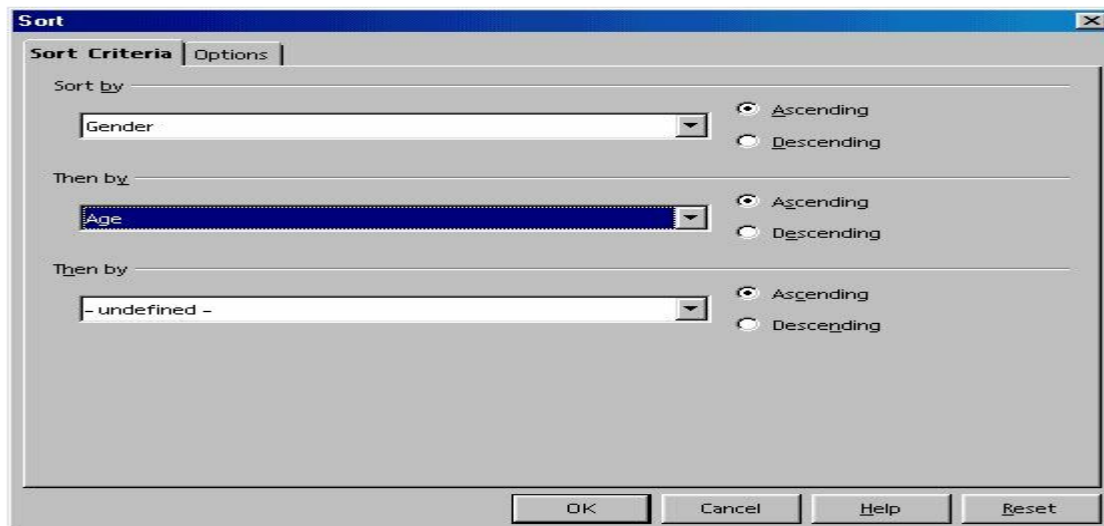
To arrange the data in ascending order (a-z, 0-9) or in descending order (z-a, 9-0), sort option is used. Sorting option of Open office Calc only arrange the data in any order by changing the row numbers.

The total numbers of records in the table are not changed.

	A	B	C	D	E
1	Name	Age	Year of Birth	Gender	Salary
2	Thompson	22	1980	Female	41250
3	Overbeck	23	1979	Female	31800
4	Dupont	25	1975	Male	26150
5	Durand	21	1981	Male	35475
6	Stevenson	20	1982	Female	38650

In order to sort your data, nothing could be easier: select the range that you want to work with, then:

1. in the menu **Data – Sort**
2. the following window should appear :



Here is the result

	A	B	C	D	E
1	Name	Age	Year of Birth	Gender	Salary
2	Thompson	22	1980	Female	41250
3	Overbeck	23	1979	Female	31800
4	Dupont	25	1975	Male	26150
5	Durand	21	1981	Male	35475
6	Stevenson	20	1982	Female	38650
7					
8					
9	Name	Age	Year of Birth	Gender	Salary
10	Stevenson	20	1982	Female	38650
11	Thompson	22	1980	Female	41250
12	Overbeck	23	1979	Female	31800
13	Durand	21	1981	Male	35475
14	Dupont	25	1975	Male	26150
15					

Filtering Database:

Sorting a database arrange all the records in particular order. Filtering a database displays only those records, which satisfy the criteria and hides all the other records.

(Keep in mind that here the row numbers are not changed, Calc only hides the unsatisfied rows)

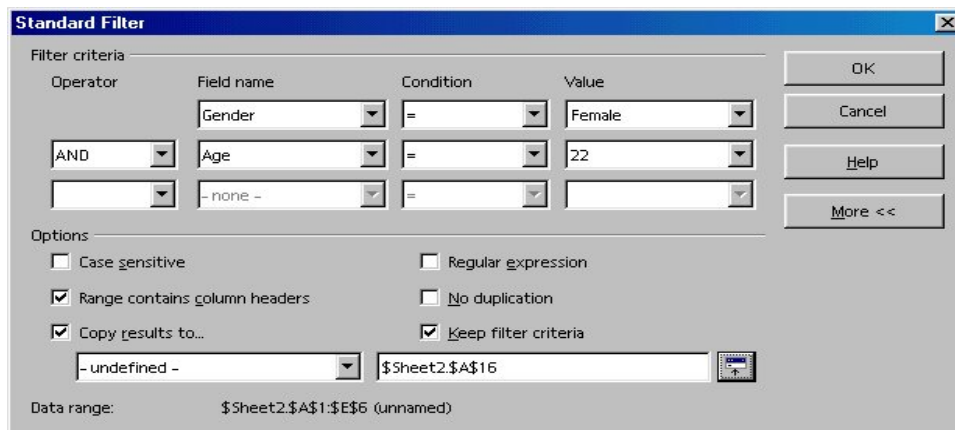
There are two types of filtering available

4.1 Standard Filter

The use of filters is as simple as sorting. After having selected your range :

- go to the menu **Data – Filter – Standard Filter...**

- The following window should appear :



The Standard Filter dialog box is shown with the following settings:

Operator	Field name	Condition	Value
	Gender	=	Female
AND	Age	=	22
	- none -	=	

Options:

- ☐ Case sensitive
- ☐ Regular expression
- ☒ Range contains column headers
- ☐ No duplication
- ☒ Copy results to...
- ☒ Keep filter criteria

Copy results to: - undefined - \$Sheet2.\$A\$1:\$E\$5 (unnamed)

Data range: \$Sheet2.\$A\$1:\$E\$5 (unnamed)






Here's the result :

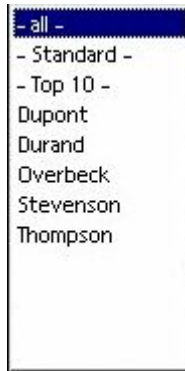
16	Name	Age	Year of Birth	Gender	Salary
17	Thompson	22	1980	Female	41250
18					

4.2 Autofilter

- under **Data**, select **Filter – Autofilter**, and see what appears on the screen :

Next to each field name, a small button with an arrow has appeared. Click on the one next to the field '**Name**' to see what it does :

	A	B	C	D	E
1	Name 	Age 	Year of Birth 	Gender 	Salary 
2	Thompson	22	1980	Female	41250
3	Overbeck	23	1979	Female	31800
4	Dupont	25	1975	Male	26150
5	Durand	21	1981	Male	35475
6	Stevenson	20	1982	Female	38650
7					



As you will have noticed, the list of names represents the filter criteria and you can apply them differently to each column.

If you click on **Standard**, the same window as that described previously it appears.

	A	B	C	D	E
1	Name	Age	Year of Birth	Gender	Salary
4	Dupont	25	1975	Male	26150

Let's click on Dupont and observe the result obtained :

The criteria corresponding to the name Dupont, and only Dupont, are displayed.

To cancel the filter operation, select the range and choose **Data - Filter - Autofilter**, untick **Autofilter**

4.3 Advanced Filter

Let's start from the example we already have :

10	Name	Age	Year of Birth	Gender	Salary
11		<'25'			
12					>35000
13					

Result :

17	Name	Age	Year of Birth	Gender	Salary
18	Thompson	22	1980	Female	41250
19	Durand	21	1981	Male	35475
20	Stevenson	20	1982	Female	38650
21					

Chart

Definition of Chart

To display the graph in Calc, Chart option is used.

A chart is a graphical representation of [data](#).

Calc offers many types of charts like: Column, Line, Pie, Bar, Area, Scatter etc.

Benefit of Chart:

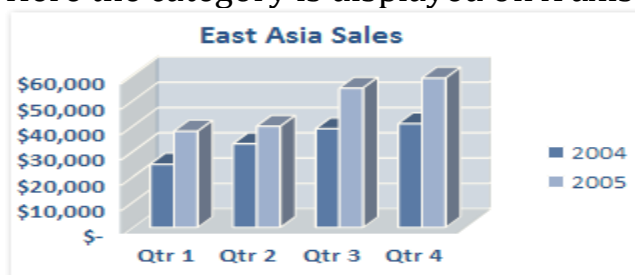
1. User can easily compare the data.
2. He can easily find out the relation between data.
3. Easy way to convey information.
4. He can easily compare changes.
5. It is easy to understand than table
6. User can easily find out difference.

Types of Charts:**1. Column charts**

In column chart, data is arranged in columns on a worksheet.

It is used to compare data.

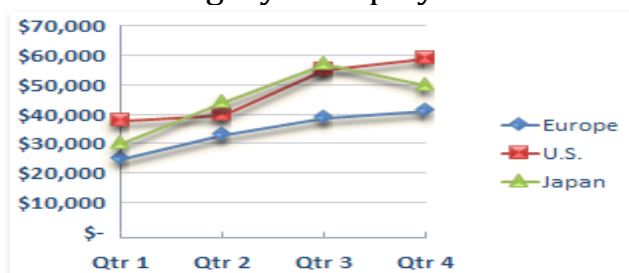
Here the category is displayed on X axis and values are on Y axis.

**2. Line charts**

In line chart, data is arranged by applying line.

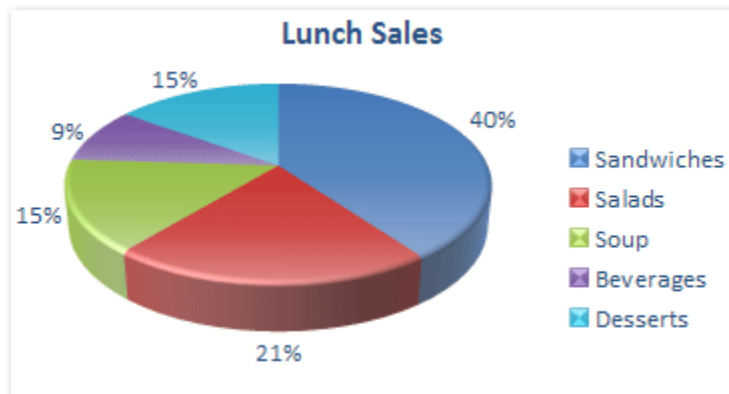
It is also used to compare data.

Here the category is displayed on X axis and values are on Y axis.

**3. Pie charts**

Pie chart is used when the data is needs to display in form of Percentage.

It displays 100% data.

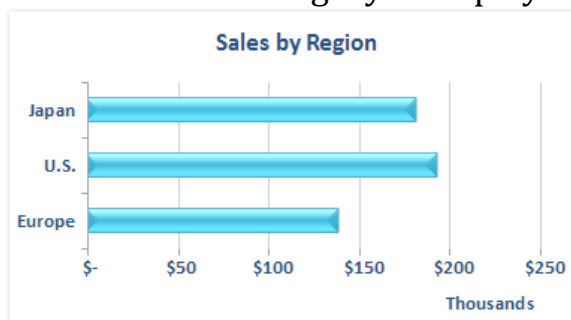


4. Bar charts

In Bar chart, data is arranged in rows on a worksheet.

It is used to compare data.

Here the category is displayed on Y axis and values are on X axis.

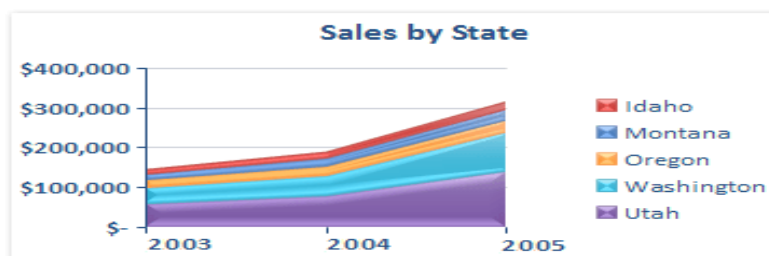


5. Area charts

Area Chart is used when user wants to display information by covering area.

It is also used when you want to compare data by area.

Here the category is displayed on X axis and values are on Y axis.



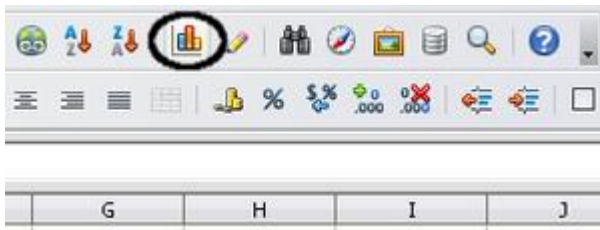
Insert Chart

A2:D8				
	A	B	C	D
1		Equipment Rentals		
2		Canoes	Boats	Motor
3	Jan	12	23	47
4	Feb	9	31	54
5	Mar	14	27	56
6	Apr	17	28	48
7	May	13	19	39
8	Jun	8	27	52
9				
10				

Selecting data for plotting

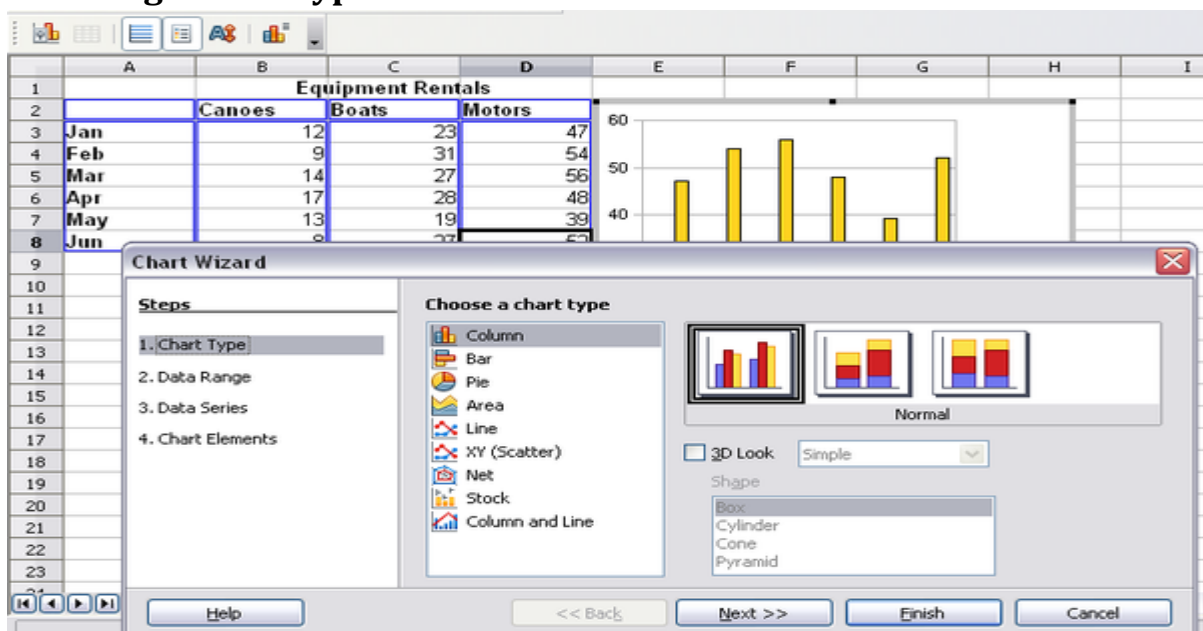
Next, open the Chart Wizard dialog using one of two methods.

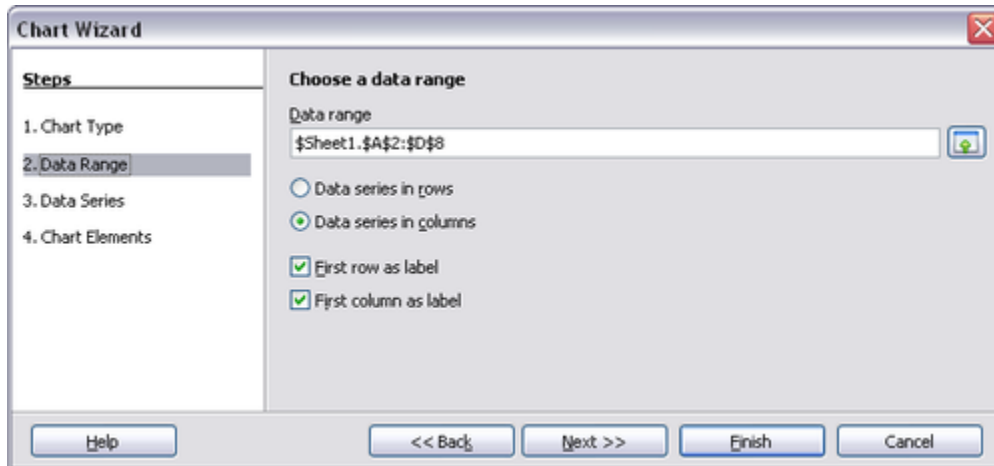
- Select **Insert > Chart** from the menu bar.
- Or, click the **Chart** icon on the main toolbar.



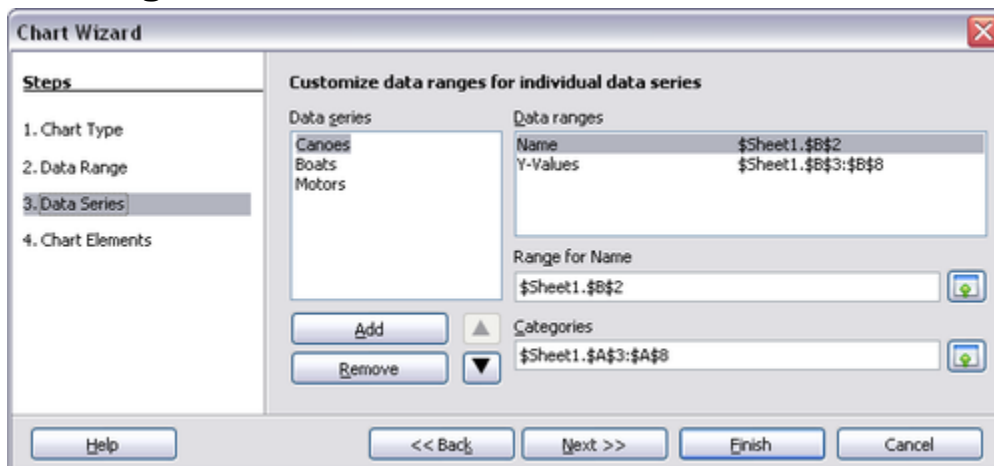
Insert chart from main toolbar

Choosing a chart type

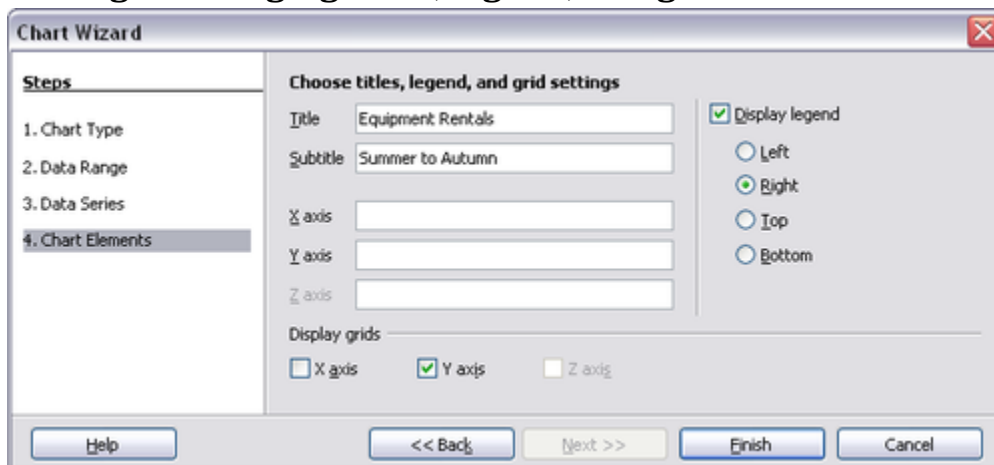


*Chart Wizard, Step 1—Choose a chart type***Changing data ranges and axes labels**

The Chart Wizard dialog box, Step 2: Data Range. The 'Steps' list on the left shows '2. Data Range' is selected. The 'Choose a data range' section has a 'Data range' text box containing '\$Sheet1.\$A\$2:\$D\$8'. Below it, 'Data series in columns' is selected with a radio button. 'First row as label' and 'First column as label' are both checked with checkboxes. At the bottom are buttons for 'Help', '<< Back', 'Next >>', 'Finish', and 'Cancel'.

*Changing data ranges and axes labels***Selecting data series**

The Chart Wizard dialog box, Step 3: Data Series. The 'Steps' list on the left shows '3. Data Series' is selected. The 'Customize data ranges for individual data series' section has a 'Data series' list containing 'Canoes', 'Boats', and 'Motors'. To the right, 'Data ranges' are specified: 'Name' is '\$Sheet1.\$B\$2' and 'Y-Values' is '\$Sheet1.\$B\$3:\$B\$8'. Below these, 'Range for Name' is '\$Sheet1.\$B\$2'. At the bottom, 'Categories' is '\$Sheet1.\$A\$3:\$A\$8'. There are 'Add' and 'Remove' buttons between the series list and the ranges. At the bottom are buttons for 'Help', '<< Back', 'Next >>', 'Finish', and 'Cancel'.

Adding or changing titles, legend, and grids

The Chart Wizard dialog box, Step 4: Chart Elements. The 'Steps' list on the left shows '4. Chart Elements' is selected. The 'Choose titles, legend, and grid settings' section has a 'Title' text box with 'Equipment Rentals' and a 'Subtitle' text box with 'Summer to Autumn'. Below these are text boxes for 'X axis', 'Y axis', and 'Z axis'. To the right, 'Display legend' is checked, and 'Right' is selected for the legend position. At the bottom, 'Display grids' has checkboxes for 'X axis' (unchecked), 'Y axis' (checked), and 'Z axis' (unchecked). At the bottom are buttons for 'Help', '<< Back', 'Next >>', 'Finish', and 'Cancel'.

Protect a Spreadsheet with Password

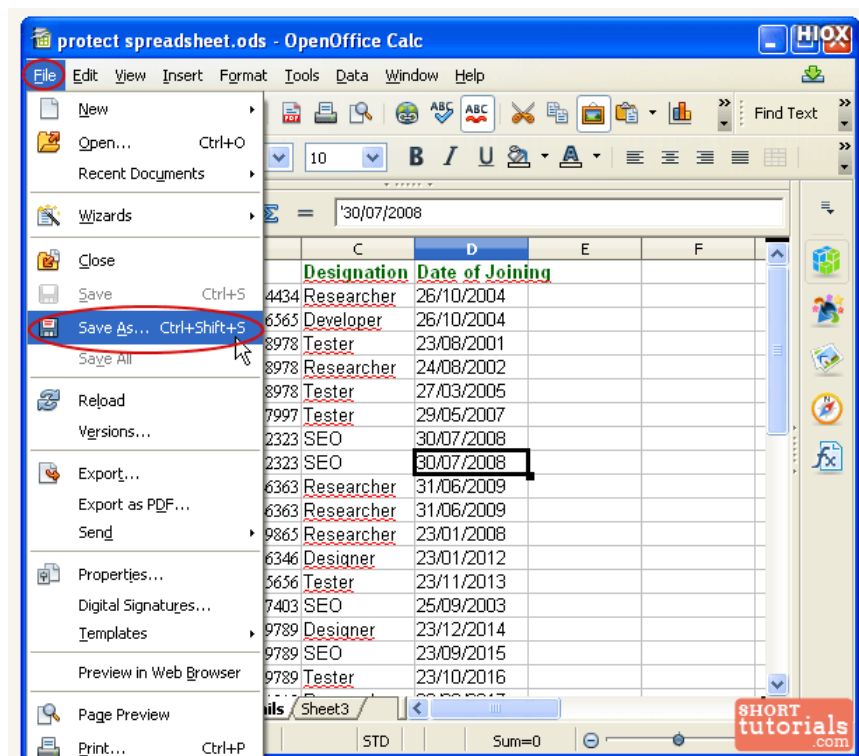
Password Protection option let the users to prevent the document getting accessed from the unauthorized person. Each time when you open the protected document, it will prompt for the password. To protect the spreadsheet document in openoffice calc, follow the steps given below. Note: You can even protect the existing spreadsheet file using "Save As" option.

Protect spreadsheet while saving:

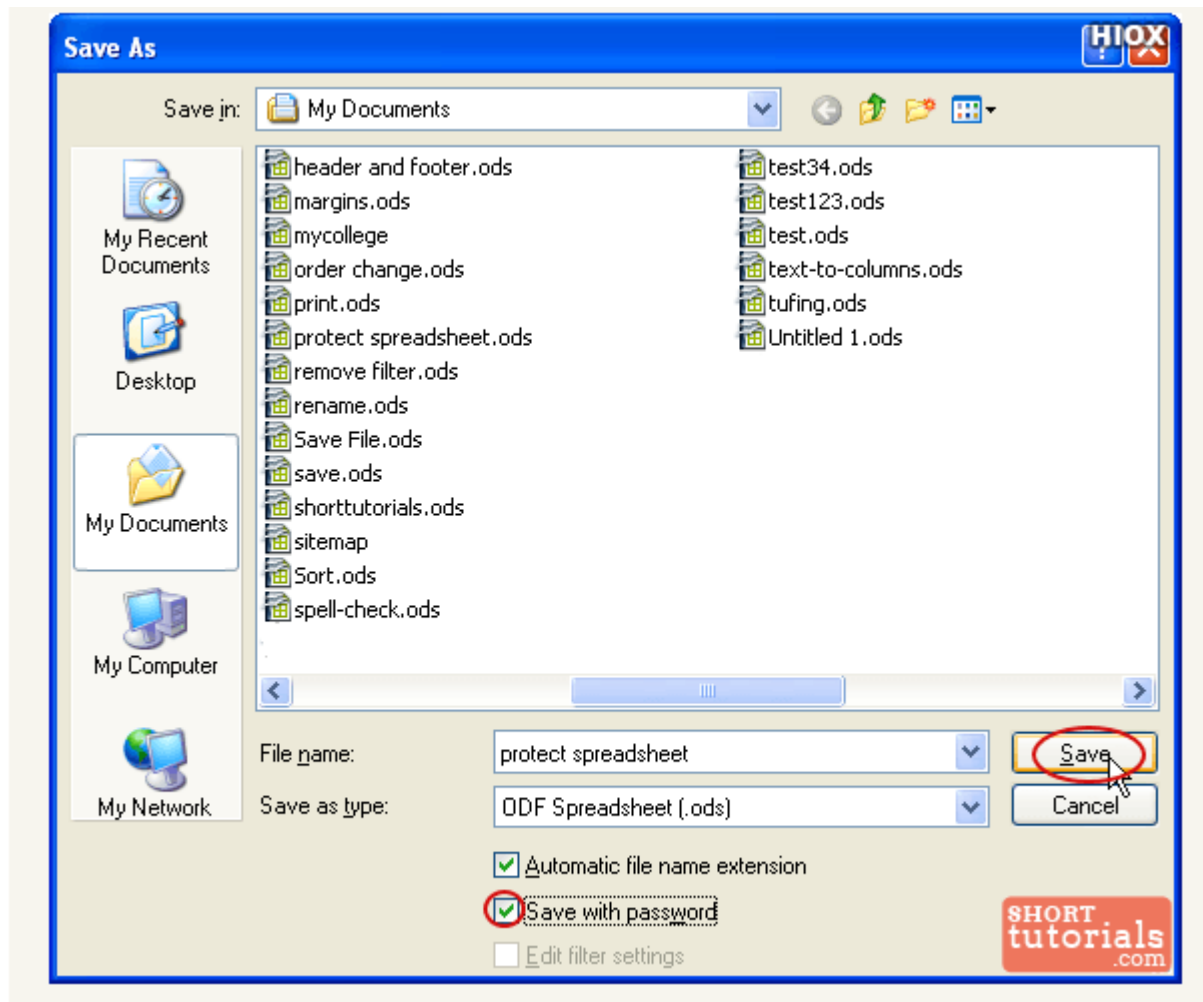
Step 1: You can save the document in openoffice calc using any of the following two options.

Option 1: Click File -> Save or Ctrl+S, when saving a new file.

Option 2: Open the required file and click File -> Save As or press Ctrl+Shift+S.



Step 2: Save As dialog box appears. Enable Save with password check box and click Save button.

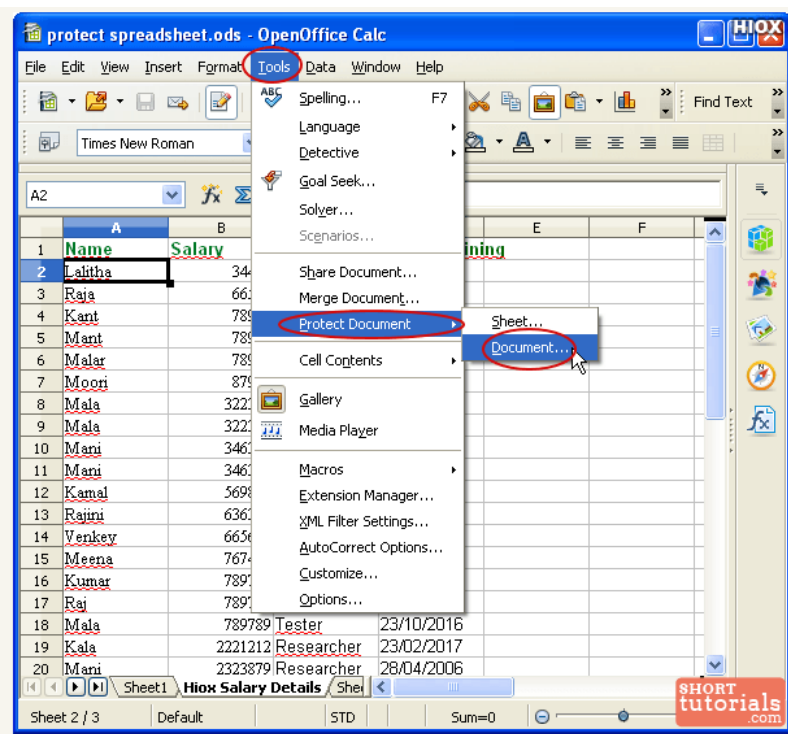


Step 3: Set Password dialog box opens up. Type the password under Enter password to open field and retype the same password under Confirm password text box. Click OK.



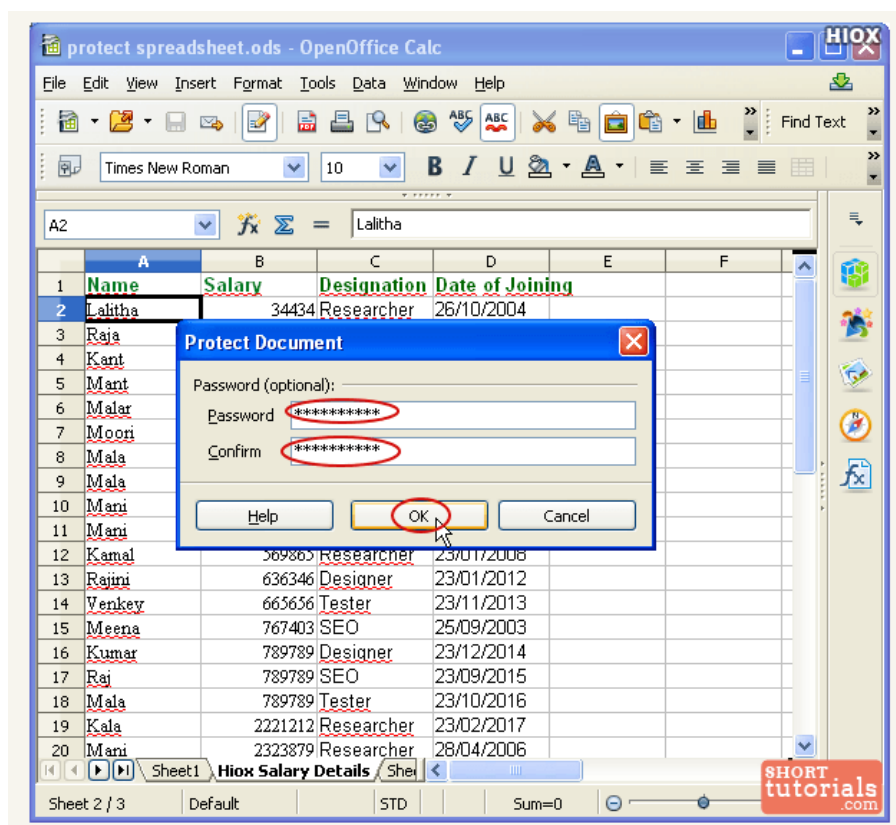
Password Protection for a Document:

Step 1: Click Tools -> Protect Document -> "Document..."



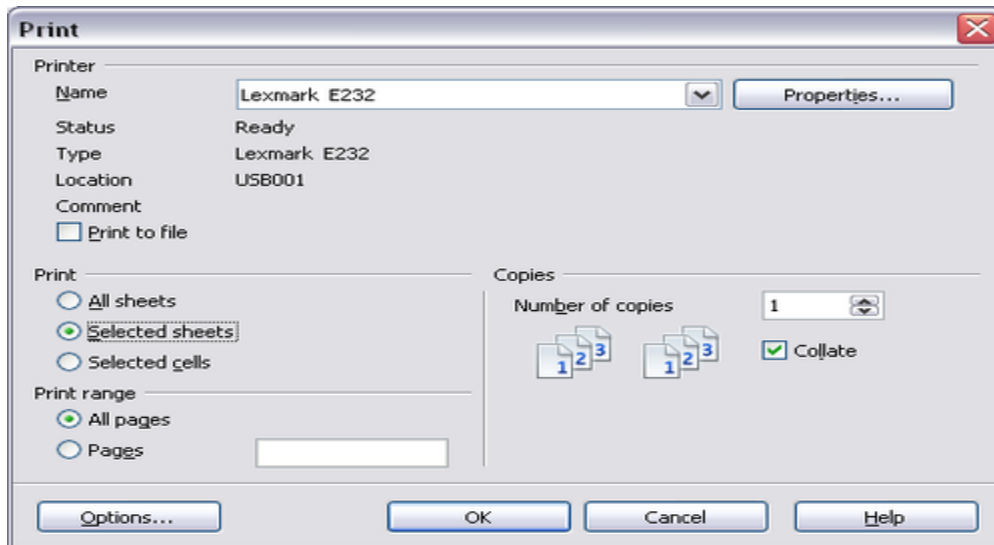
Step 2: In Protect Document dialog box, provide the Password under Password field and retype the password under Confirm field.

Step 3: Click OK.



Printing from Calc

The Print dialog, reached from **File > Print**, has some Calc-specific options: **Print** and **Print Range**.

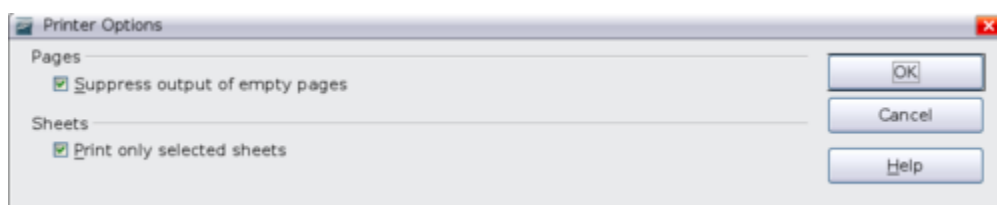


Print dialog for Calc

Selecting sheets to print

1. Go to the November sheet. Hold down the *Control* key and click on the tab of the December sheet.
2. To print all of the sheets, go to **File > Print** and select **Options**.

The Printer Options dialog has only two choices: **Suppress output of empty pages** and **Print only selected sheets**. The **Print only selected sheets**. This choice affects the print preview, export, and printing of your spreadsheet.



Top of the Printer Options dialog

3. Click **OK**.

Selecting the page order, details, and scale

Using print ranges

Defining a print range

To define a new print range or modify an existing print range:

1. Highlight the range of cells that comprise the print range.
2. Choose Format > Print Ranges > Define.

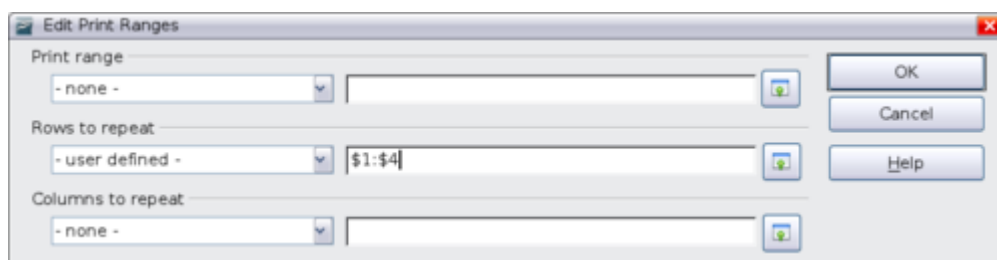
The page break lines display on the screen.

Removing a print range

Choose Format > Print Ranges > Remove. This removes all defined print ranges on the sheet. After the print range is removed, the default page break lines will appear on the screen.

Printing rows or columns on every page

1. Choose **Format > Print Ranges > Edit**. On the Edit Print Ranges dialog, type the rows in the text entry box under *Rows to repeat*. For example, to repeat rows 1 and 2, type **\$1:\$2**. In the *Rows to repeat* list, **- none -** changes to **- user defined -**.



Specifying repeating rows

2. Columns can also repeat; type the columns in the text entry box under *Columns to repeat*. For example, to repeat column A, type **\$A**. In the *Columns to repeat* list, **- none -** changes to **- user defined -**.
3. Click **OK**.

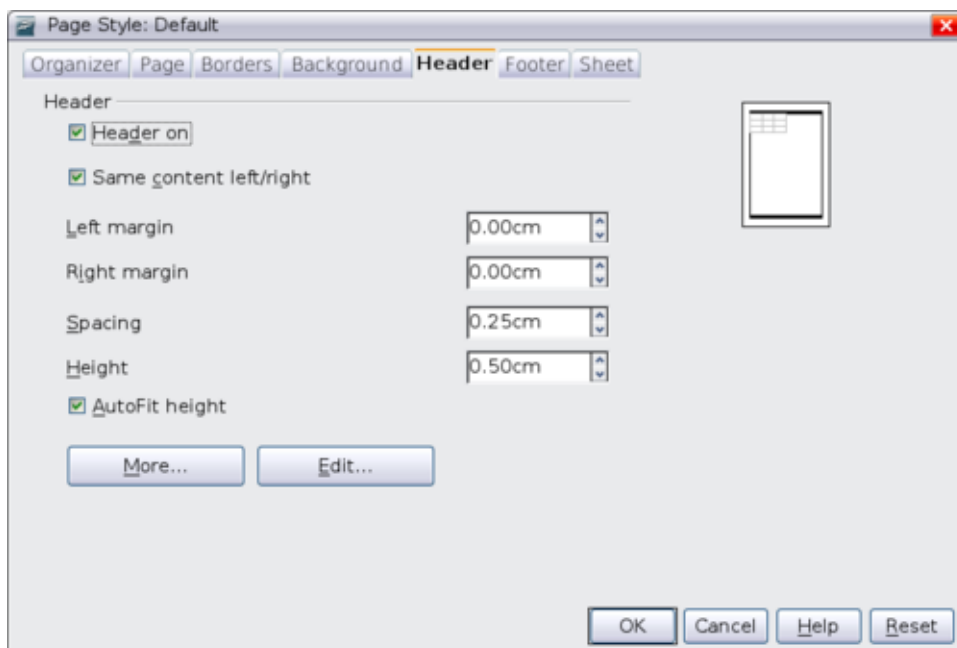
Headers and footers

Headers and footers are predefined pieces of text that are printed at the top or bottom of a sheet outside of the sheet area. They are set the same way.

Headers and footers are assigned to a page style. You can define more than one page style for a spreadsheet and assign different page styles to different sheets.

To set a header or footer:

1. Navigate to the sheet that you want to set the header or footer for. Select **Format > Page**.
2. Select the Header (or Footer) tab.
3. Select the **Header on** option.

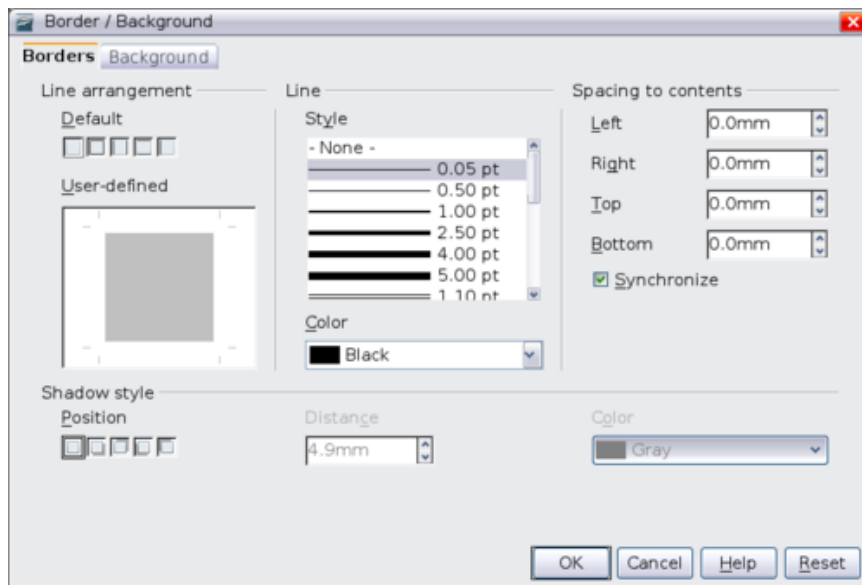


Header dialog

From here you can also set the margins, the spacing, and height for the header or footer. You can check the **AutoFit height** box to have the height of the header or footer automatically adjust.

Header or footer appearance

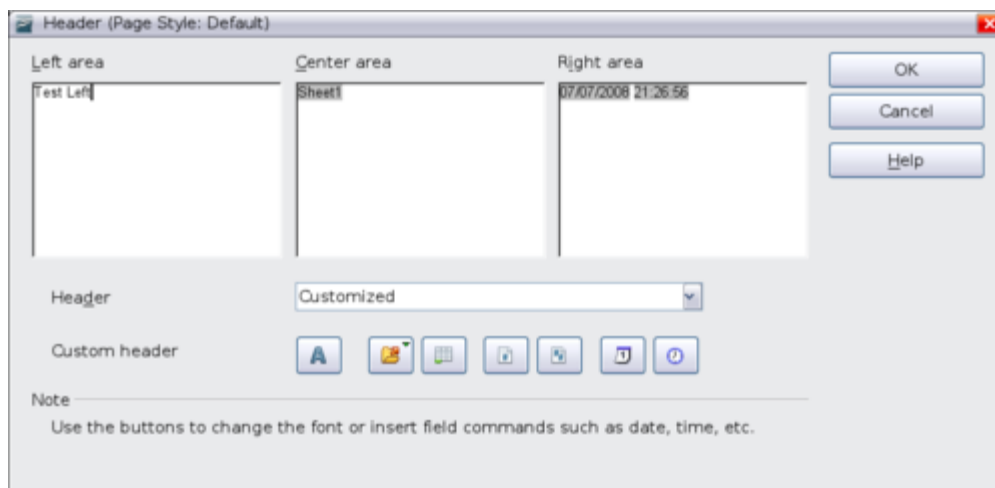
To change the appearance of the header or footer, click **More**.



Header/Footer Border/Background


Contents of the header or footer

To set the contents of the header or footer, click the **Edit** button in the header or footer dialog to display the dialog shown below.




Edit contents of header or footer

 Opens the Text Attributes dialog.

 Inserts the total number of pages.

 Inserts the File Name field.

 Inserts the Date field.



Inserts the Sheet Name field.



Inserts the Time field.



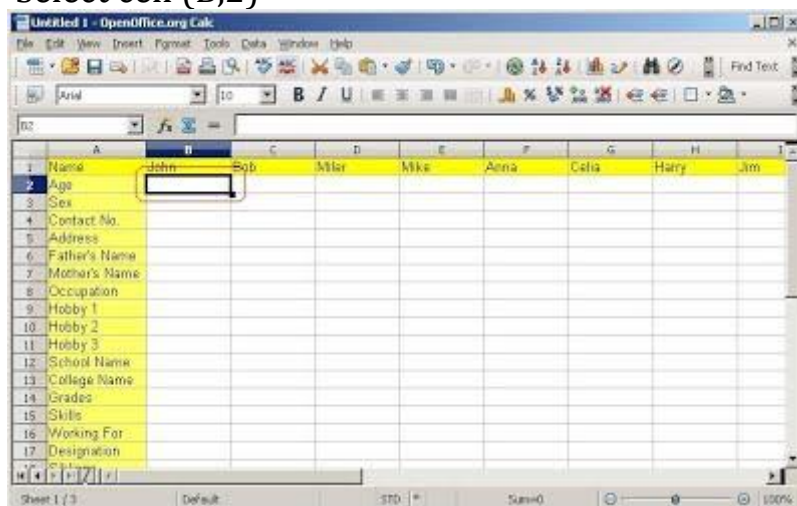
Inserts the current page number.

Freeze Pane

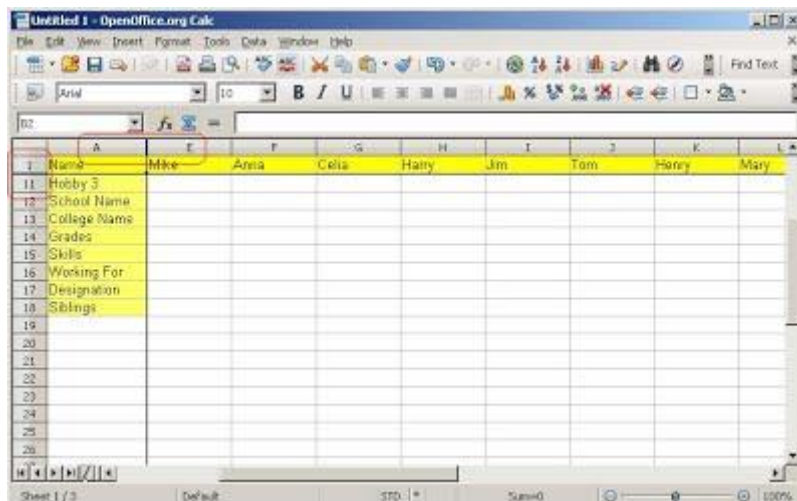
For large spreadsheets that do not fit completely in the window, it is useful to be able to freeze the row and/or column headers to better view the data.

Suppose you want to freeze first row and first column.

Select cell (B,2)



- From main-menu select **Window->Freeze option**
- that's it...first row and first column will be frozen until you remove the check mark from the **Window->Freeze option**



SumIf()

Conditionally sums the contents of cells in a range.

Syntax:


SUMIF(test_range; condition; sum_range)

Example:

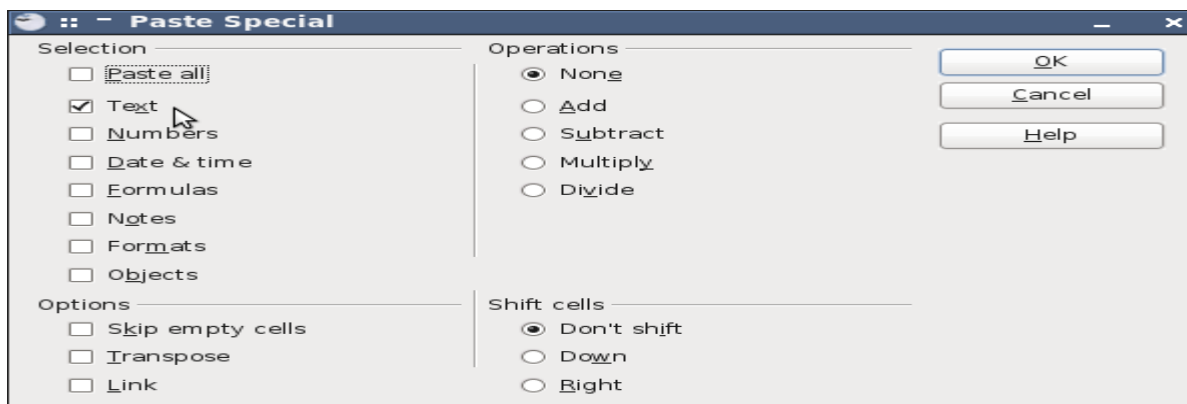
SUMIF(A1:A9;"<0")

returns the sum of the negative numbers in **A1:A9**.

Inserting Textbox

- Insert Shape from drawing toolbar.
- Insert text box  from drawing toolbar and click in shape.

Paste Special



- It can paste only numbers / text / date & time / formula / formats Etc. from the selection.
- It can convert row into column and vice versa while pasting.
- It can do operation like addition, subtraction, multiply and divide.
- It can shift the cells.
- Edit → Paste special option.

PMT Function

Returns the payment per period for a fixed rate loan.

Syntax:

PMT(rate; numperiods; principal)

Example:

=PMT(5.5%/12; 12*2; 5000; 0; 0)

returns **-220.48** in currency units. You take out a 2 year loan of 5000 currency units at a yearly interest rate of 5.5%, making monthly payments at the end of the month. You pay 220.48 currency units each month; it is given as negative because you pay it.

STDDEV Function

Returns the sample standard deviation of the arguments.

Syntax:

=STDEV(number1; number2; ... number30)

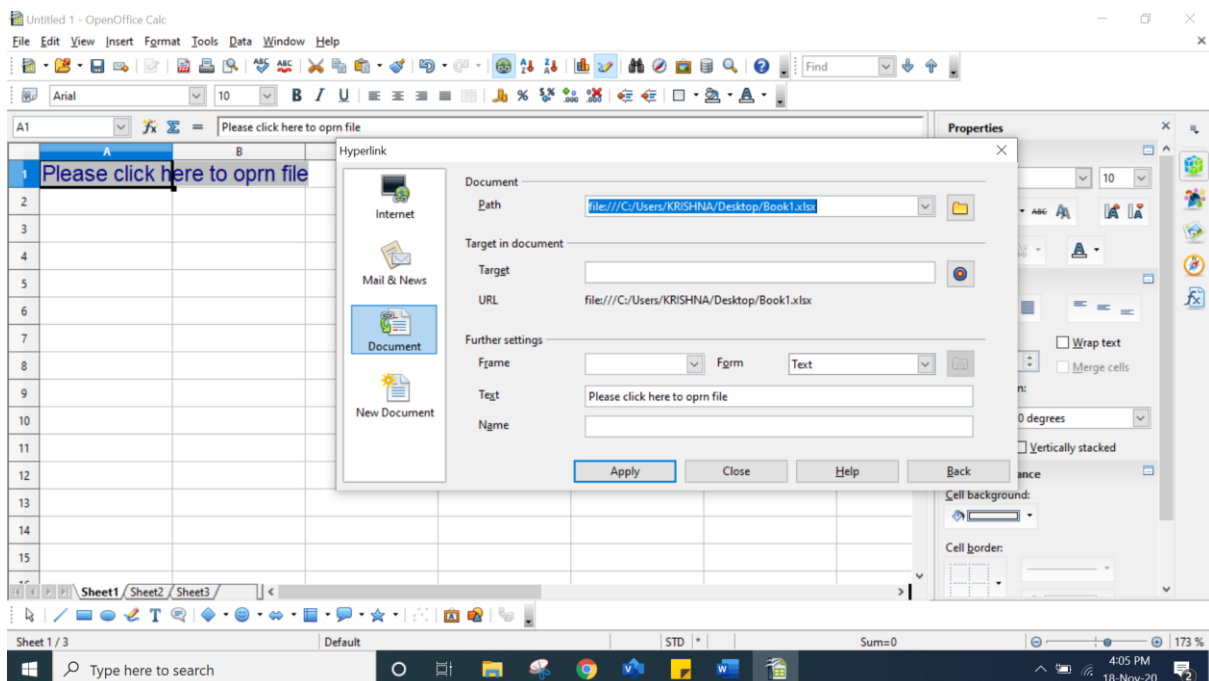
Example:

STDEV(2; 6; 4)

returns 2.

Linking Spreadsheet

- Select Insert menu → Hyperlink Option
- Select Document Tab → Select File from **Path** option.

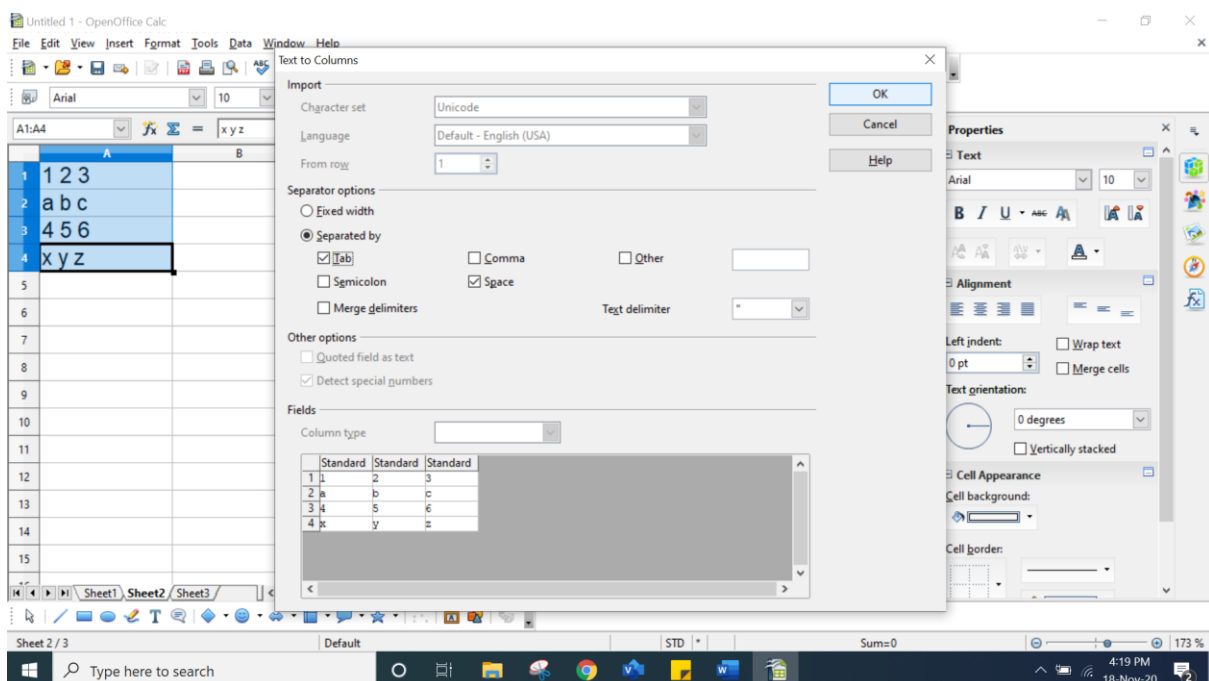


- Click on Apply.
- Select the text to open file.

Text to Column

	A
1	1 2 3
2	a b c
3	4 5 6
4	x y z

- Select the data
- Select Data Menu → select Text to column option.
- Select **Space** Check box.
- Click **OK**.



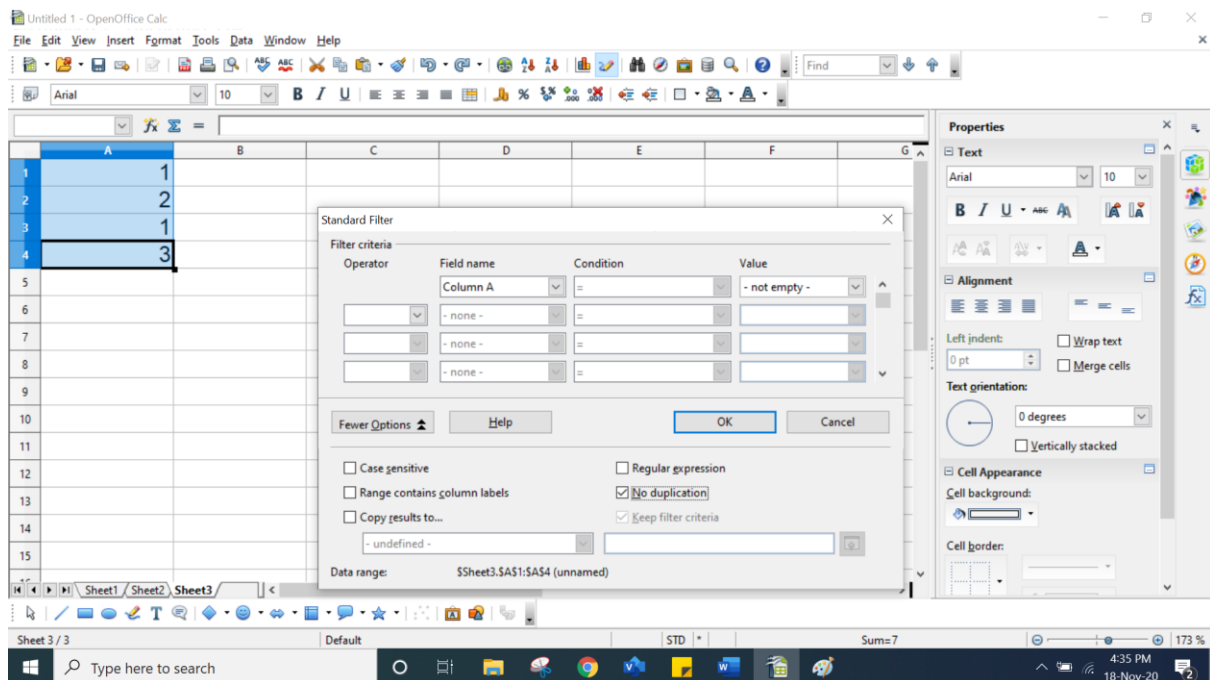
Result:

	A	B	C
1	1	2	3
2	a	b	c
3	4	5	6
4	x	y	z

Remove Duplication

- Select Data → Filter → Standard Filter option.
- Select **Not Empty** from Value
- Click on **More Option**

- Select **No Duplication** Checkbox.



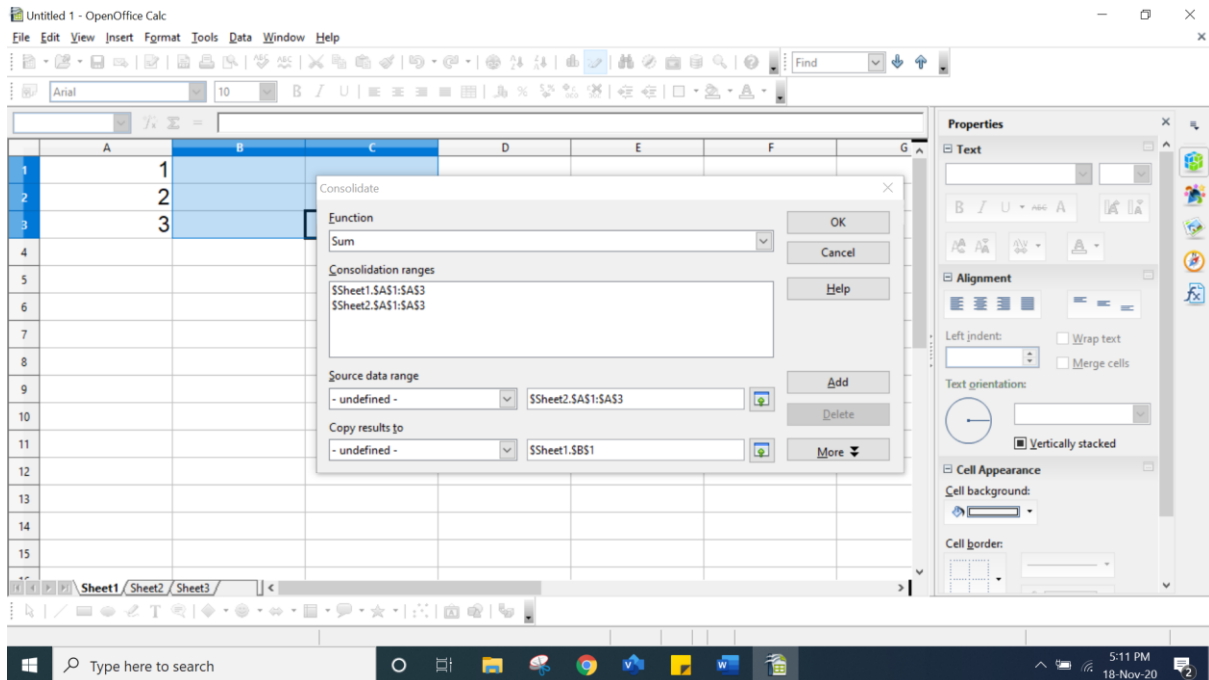
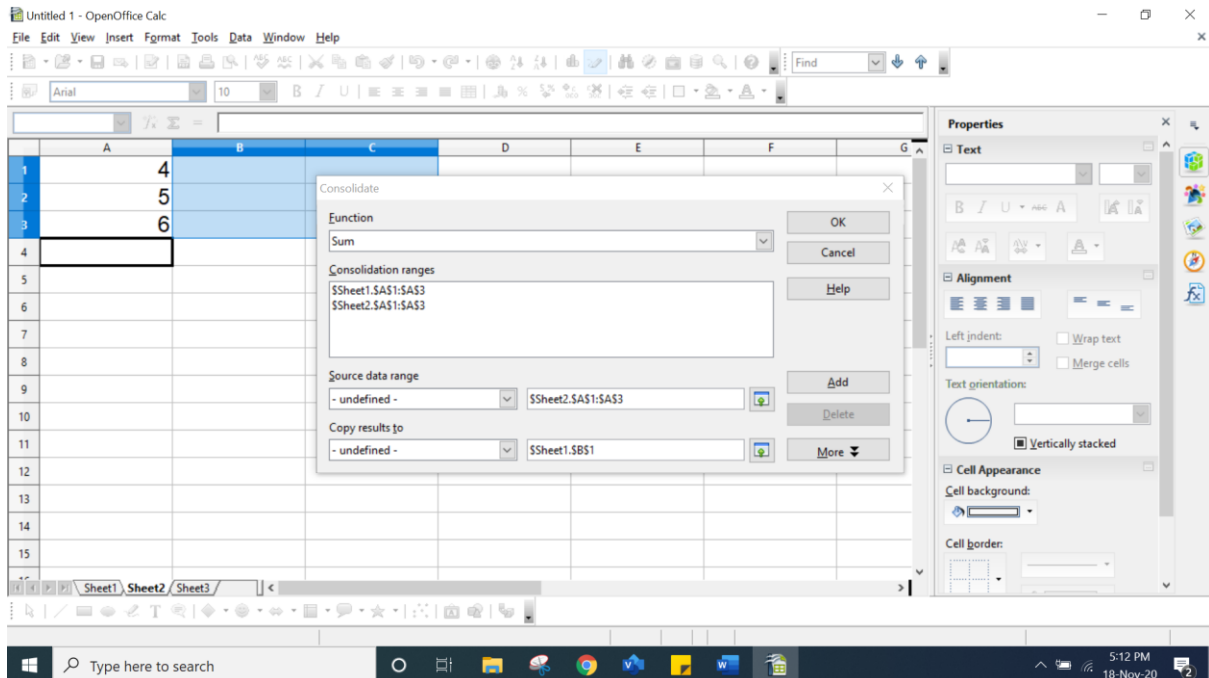
Result:

	A
1	1
2	2
4	3

Consolidate Data

Data > Consolidate provides a way to combine data from two or more ranges of cells into a new range while running one of several functions (such as Sum or Average) on the data. During consolidation, the contents of cells from several sheets can be combined in one place.

- Select first sheet from **source data range**. Click on **Add**.
- Select second sheet from source data range. Click on **Add**.
- Select the sheet, where you want to consolidate data from **copy result to**
- Select desired function.
- Press **ok**.

Sheet 1:**Sheet 2:****Result:**

	A
1	5
2	7
3	9