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MODULE 4

SPREADSHEETS

In this module, you will learn how to:

- work in the environment of **Calc**;
- create a workbook;
- to draw up a formula for calculations;
- use built-in options;
- use cell formatting;
- apply changes to **Calc** document;
- insert charts;
- arrange data in a specific order;
- prepare a document for printing;
- use the Help function.

The Basics of Spreadsheet Programmes

Spreadsheets

Spreadsheet applications are used for fast and accurate calculations and formatting of a data document. The potential of spreadsheets is practically unlimited – they are used for financial documents, reports, invoices, processing information from scientific researches, statistical analysis, calculations of costs for activities, etc. Spreadsheet applications are used as a universal programme for structured data preparation and processing.

Spreadsheets allow creating large and clear schedules, e. g, for the execution of a project.

Spreadsheet software also allows opening files of many other specialized accounting applications.

In practice, a spreadsheet document created and formatted may be used. The user must know how to insert data in a spreadsheet; formulas have already been created and inserted, and a document will be formatted and ready for printing.

Various pictures, charts and drawings may already be added to spreadsheets.

Note!

The tutorial looks at the application OpenOffice.org Calc version 3.2 in the Gnome environment of the operating system **Linux Ubuntu 10.10**.

The folder 4_izklaipas4_spreadsheets with the templates of assignments must be copied to the **Documents** folder of the user's account.

Application

In the **OpenOffice.org** application suite, spreadsheets are used with the **Calc** application.

The **OpenOffice.org** suite also includes a word processor for creation of documents, a presentations application, a database management programme, a drawing programme and several other additional programmes and modules. These programmes are developed and maintained by an online community with the support of software company **Oracle**. This software is free and is included with the **Linux** operating system.

Actions

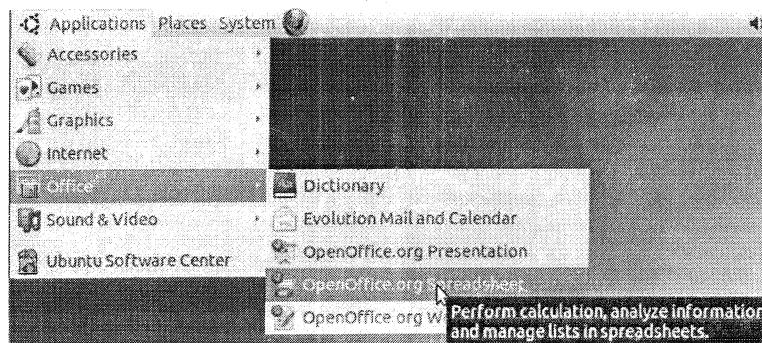
In order to achieve successful results with the spreadsheet application, the following tools are available for work:

- The graphical environment of the programme – the **user interface**;
- The left mouse click;
- The double left mouse click;
- The right-click menu;
- The keyboard for input of data and formula, and commands;
- The „drag-and-drop” technique;
- Skills in basic actions with text.

Introduction to the Application

To open OpenOffice Calc:

Perform the command **Applications->Office->OpenOffice.org Spreadsheet** in the Applications menu of the operating system.



The application document is called a **workbook**. A workbook consists of **worksheets**. By default, a new workbook contains three worksheets, but the number of worksheets can be modified. There are maximum 256 worksheets per workbook in the application **OpenOffice.org Calc**.

- ✓ Each worksheet is divided into vertical columns and horizontal rows, forming cells, in which both information and formulas can be entered.
- ✓ Columns are identified with letters of the Latin alphabet (and combinations thereof), while rows are identified with ordinal numbers.
- ✓ A cell is identified by its column letter (letters) and row number, e. g., A4:

	A	B
1		
2		
3		
4		
5		
6		

- ✓ A cell can be considered the basic element of a spreadsheet. Data, formulas are entered in a cell. Cells are formatted, which determines the design and layout of their content.

Note:

In work with large documents containing many spreadsheets, the user may come across limits for application capacity, e. g., the number of spreadsheets per workbook, the maximum number of rows and columns. Software developers are constantly updating software and the 3.3. version of the software contains 1,024 columns and 1,048,576 rows.

Limits for amounts of data can be increased by an aid of additional measures. However, specific knowledge is required.

User Interface → last column Address: AMJ

→ ctrl + Home: move beginning of (A1) the worksheet.

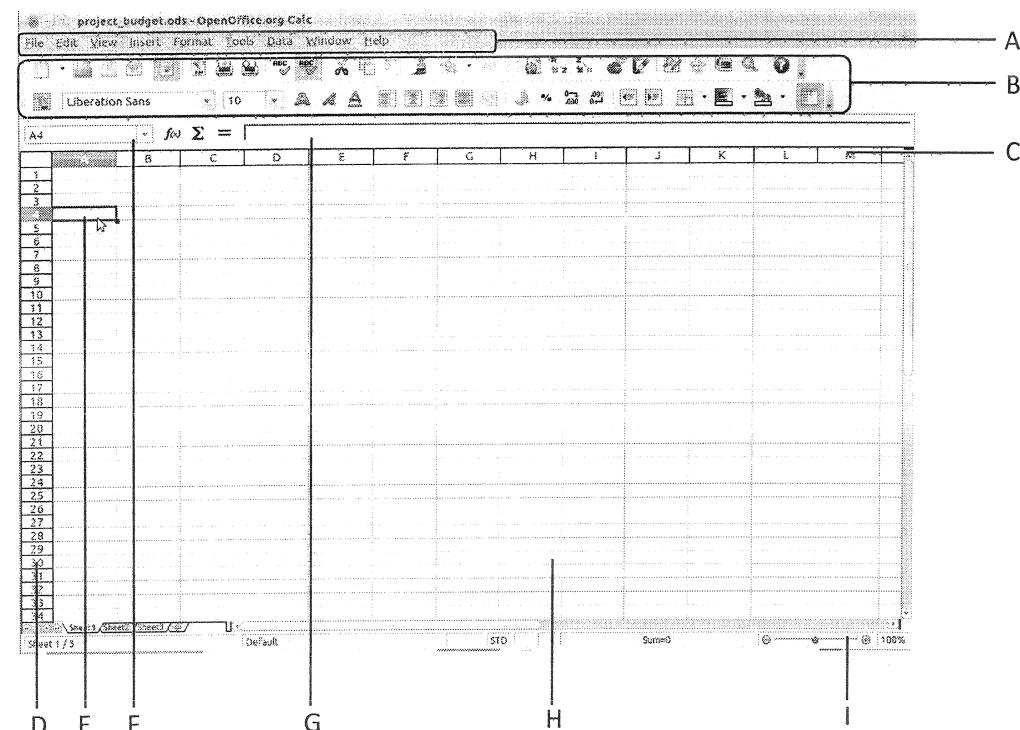
→ ctrl + ↓ (down arrow key) Total no of Row

→ Alt + ↑, ↓ (Arrow key) for Height & width

→ Extension of spreadsheet: .xls, .ods



* User Interface: calc



A – menu bar; B – toolbars; C – column headers; D – row headers; E – active cell; F – address or name field of selected cells; G – formula and data input bar; H – workspace; I – zoom tool

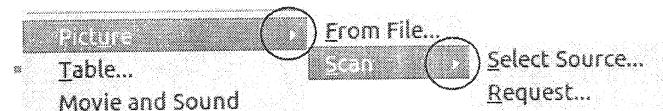
Image 1 User interface of OpenOffice.org Calc

The menu bar contains menus with commands for various tasks. The names of the menus correspond to the functions of the commands:

- **File** – commands that refer to the entire document such as creating a new OOO document, creating a workbook, saving, a document creation wizard, printing, print preview;
- **Edit** – editing commands, such as copy, paste, find & replace;
- **View** – adding or removing elements of the user interface, page break preview;
- **Insert** – inserting of rows, columns, worksheets, elements and objects;
- **Format** – formatting cells and their content, merging cells, element grouping and sorting, conditional formatting;
- **Tools** – tools for additional tasks, such as spellchecking, document protection, formulas, error correction;
- **Data** – data processing, data sorting and data filter;
- **Window** – opening a new window, freezing cells, list of open OpenOffice.org documents;
- **Help** – the help function, information about an application, the software version.

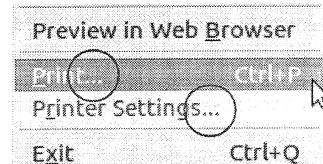
A triangle indicates submenus in a menu:

View → Toolbars → Picture



If additional input is needed for the execution of a command, the programme opens a dialogue box, in which the user has to make a selection or adjust additional settings.

An ellipsis indicates that a dialogue box will be open: *File menu*



A toolbar features common commands in the shape of onscreen buttons. By hovering the mouse pointer over a button, the name of the corresponding function appears.

Toolbars can be turned off and on with as needed by performing the command **View->Toolbars.**

Useful tip:

Descriptions of software often use the terms *default*, *by default*. It refers to the default software settings which are used when the user has not specified otherwise.

For example, cell borders in Calc are black by default, but the user can change this colour as desired.

After the **OpenOffice.org Calc** activation, default toolbars are seen:

- **Standard** – most frequently used commands from the File, Edit, Insert menus;
- **Formatting** – most frequently used commands for formatting content in a cell;
- **Formula Bar** – a toolbar of a formula used to enter and edit a formula (formulas) and the content of a cell.

Buttons in toolbars can be modified; the user can add buttons to the toolbar, remove them and adjust their sequence.

Note!

Toolbars can open and close automatically depending on the selected option in the **Calc** workbook.

The zoom tool (*I* – *zoom in* / *Image 1*) can be used to zoom a worksheet.

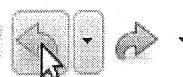
Each workbook is opened in a separate **Calc**.

Creating a Simple Calc Document

At this stage, entering data and simple calculations in a worksheet will be mastered, such as a new unit of a company is established and office premises should be arranged.

Useful tip

An action can be reverted by using the menu command **Edit->Undo** or the **Undo** button in the toolbar. An undone action can be restored with the **Redo** button.



Task 4.1. Create a workbook to register all the costs related with the office arrangements and calculate the total costs.

1. Open OpenOffice.org Calc:

1.1. Perform the command **Applications->Office->OpenOffice.org Spreadsheet** in the Applications menu of the operating system.

2. Enter the following data:

	A	B	C	D	E
1	Position	Description	Quantity	Price	Amount
2	1	desk	3	45	
3	2	laptop	3	678.56	
4	3	phone	1	34	
5	4	chair	7	54	
6	5	WiFi AP	1	23	
7				Total:	
8					

- 2.1. Left-click on the cell A1;
- 2.2. Enter the word **Position**;
- 2.3. Press the **Enter** key;
- 2.4. Repeat the action to enter data in the first column;
- 2.5. Left-click on the cell B1;
- 2.6. Enter data in other columns.

Note!

In spreadsheets, it is important to make sure that the correct decimal mark is used. The default setting depends on the operating system, **Calc**, and local cell settings.

The decimal mark can be a period (.) or comma (,).

3. In the cell E2, enter formula to calculate the costs of each position:

- 3.1. Select the cell E2, left-click on it;
- 3.2. Enter the formula: =C2*D2 (a number multiplied by the costs);

	A	B	C	D	E
1	Position	Description	Quantity	Price	Amount
2	1	desk	3	45	=C2*D2
3	2	laptop	3	678.56	
4	3	phone	1	34	
5	4	chair	7	54	
6	5	WiFi AP	1	23	
7				Total:	

- 3.3. Press the **Enter** key.

Note!

An expression or formula must start with the equals sign (=), otherwise the application identifies it as regular text in a cell (even if a number is entered) and does not perform calculations.

- Enter the necessary expressions in the cells from E3 to E6 to multiply the Quantity by the Price, repeating the previous actions similarly as in item 3.

Note:

In spreadsheets, a cell range is identified by the address of the first cell and the address of the last cell, separated with a colon; e. g. E3:E6 refers to cells from E3 to E6.

- Calculate the total costs of the office arrangements in the cell E7:

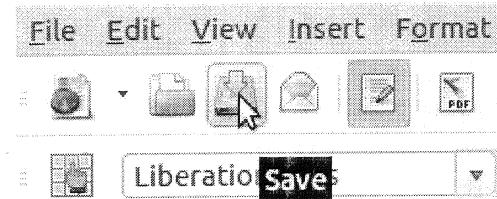
- Select the cell E7;
- Enter a formula: =E2+E3+E4+E5+E6
- Press the Enter key;

- Save a workbook as **project_budget**;

- Perform the menu command **File->Save**

or

- Click the **Save** button on the Standard;



- In the **File Name field** of the **Save** dialogue box, enter the name **project_budget**;
- Confirm the action with the **OK** button;

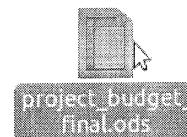
- Close a workbook:

- Perform the menu command **File->Exit**.

- Open the created spreadsheet file:

- Execute the **Places->Documents** menu command with the operating system:

- Select the file icon with the left mouse click:



- Press the **Enter** key on the keyboard.

- Modify data in the table - increase the number of the portable computers:

- Select the cell C3;

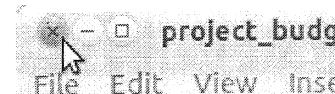
- Enter number 12;

- Press the **Enter** key;

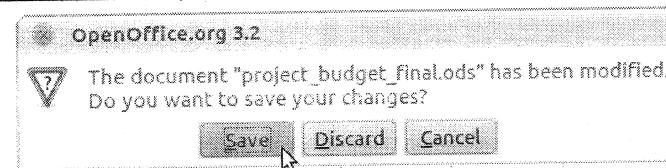
- Check to see if the result was automatically updated in the table.

- Close a workbook:

- Click the **Close** button of the application window:



- Save changes by the **Save** button in the toolbar:



Basic Actions in Spreadsheet Application Calc

To be introduced with the application, following actions had been performed in Task 4.1:

- A new workbook created by opening the application;
- Data entered in separate cells;
- Formulas created;
- A file saved by default on to a computer's hard drive;
- The created spreadsheet file was opened from its location;
- Data in a table modified;
- Changes saved.

Note!

Like in other applications, the **OpenOffice.org Calc** allows performing actions and commands in different ways and achieving the same outcome.

Recommended Layout

In practice, spreadsheet documents are created for further usage. A created and formatted workbook can be used anew by changing and restoring data and modifying formulas.

Software should automatically do recalculation corresponding to new data.

A spreadsheet file can also be used by other users therefore it is suggested to use some recommendations for sorting data in a worksheet.

It is recommended to enter even related data in separate cells; e. g., the first and last name of a person should be entered in separate cells.

When arranging data in columns, one should not leave empty rows unless it is necessary. If data is arranged in a table, visually it is better to separate the table from other data with blank, empty cells or with different formatting.

Selecting Cells

Text, numbers, formulas and references to other cells can be entered in cells.

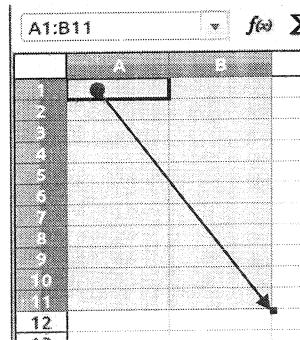
Prior to entering or editing information, the cell or a cell range must be specified in the spreadsheet:

- To select a cell to enter information, left-click on it;
- To select the entire column, click on the column header; to select the entire row, click on the row header;

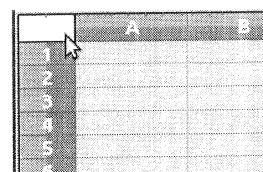
Ex. 1

Ex. A

- To select a cell range, left-click on the first cell and, without releasing the mouse button, drag the mouse pointer over the cells to be included, until the last cell of the desired range is reached, and then release the button.



- To select some non-adjacent cells or non-adjacent cell ranges, at selecting, hold down the Ctrl key;
- To select all the cells in a worksheet, click the button in the beginning of the row and column headings :



A selected cell is marked by a black frame.

A selected cell range (ranges) is marked by shading.

To cancel cell selection,

Left-click on any blank cell.

Useful tip:

The content of the selected cell is displayed in the input field of the toolbar, even when the entire content is not visible in the worksheet itself. The field can also be used to edit the data (G – data input field in Image 1).

A1:B11 specifies the cell range from **A1** to **B11**. An address/location of a cell or a cell range is displayed in the field **Name Box** (*F – addresses of selected cells or a name box in Image 1*).

Cells must be selected prior to do formatting.

Text Input and Editing

Entering text, a number and a formula, deleting and editing require a keyboard.

To enter text in a cell,

1. Select a cell;
2. Enter text or other data;

3. Press the **Enter** key on the keyboard.

The content of the cell unlike text editors, can feature various characteristics, e. g., a cell can contain a formula, an outcome of calculation and feature content formatting. Data deleting function can specify elements to be deleted from the content of a cell.

To delete the content of a cell:

1. Select a cell (cells) range;
2. Press the **Delete** key on the keyboard;
3. Click in a specific cell to choose a specific menu from the dialogue box;
4. Click the OK button in the dialogue box **Delete Contents**:

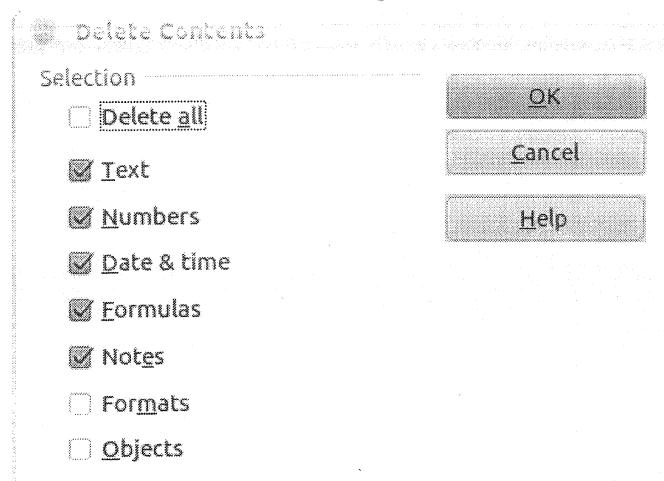


Image 2 Delete cell contents

The following options are available in the **Delete Contents** dialogue box:

- **Delete all** - deletes the entire content of a cell.
- **Text** - deletes text from the cell range selected.
- **Numbers** - deletes numbers from the cell range selected.
- **Date & time** - deletes only date and time from the cell range selected.
- **Formulas** - deletes formulas and outcomes from the cell range selected.
- **Notes** - deletes notes for a cell when any added.
- **Formats** - deletes cell formatting, e. g., removes a fill colour of a number, but a value is not deleted.
- **Objects** - deletes additional elements of a cell, e. g., deletes images.

Useful tip:

The **Backspace** key on the keyboard deletes the content of a selected cell or a cell range.

To edit the content of a cell:

1. Double left click on a cell;
2. Place the insertion point on location required;
3. Edit the content of a cell;
4. Press the **Enter** key to save changes.

Sorting and Filtering Data

IN THIS CHAPTER

- Sorting page 332
- Filtering page 337

Sorting

You can sort data in your spreadsheets pretty much anyway you want: by one or more columns, ascending or descending, or even by specific sort orders you set up yourself.

The screenshot shows three tabs at the bottom: Sheet1, Sheet2, and Sheet3. Each tab displays a table with columns A through G. The data is sorted as follows:

- Sheet1:** Sorted by Column A (Firstname).
- Sheet2:** Sorted by Column A (Firstname) and then by Column C (Address).
- Sheet3:** Sorted by Column A (Firstname) and then by Column G (Years of Service).

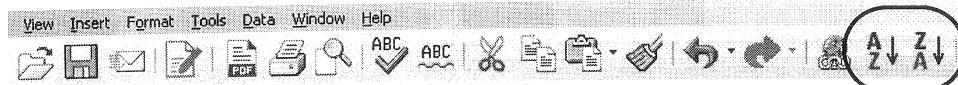
	A	B	C	D	E	F	G
1	Firstname	Lastname	Address	City	State	Postcode	Years of Service
2	Simon	Johnson	12 Main St	Fargo	ND	56567	17
3	Kyle	Hansen	1012 2nd Ave	Fargo	ND	56567	1
4	Simon	Neville	999 1st Avenue	Fargo	ND	56567	12
5	Doug						
6	Jane						
7	Dan						
8	Steve	Warner	112 Main Avenue West	Boulder	CO	80302	5
9	Larry						
10	Dena	Bryan	78 West County Line Rd	Boulder	CO	80302	5
11	Arnold						
12	Stan						
13	Jeff						
14	Kristen						
15	Don						
16	Mark						
17	Tracy						
18	Beth						
19	Allan						
20	Jennifer						
21	Simon						
22	Dan						
23	Larry	Richter	Broadway	Billings	MT	57788	1
24	Jeff	Bates	366 W 7th	Billings	MT	57788	2
25	Stephanie	Dan	Montbatten	477 NP Avenue	Billings	MT	57788
26	Ron						
27	Mark	Kristen	Togerson	78 West County Line Rd	Billings	MT	57788
28	Stan						
29	Beth	Jerlin	455 Reserve Drive	Kalispell	MT	59901	5
30	Michelle	Fortnum	39 Working Way	Kalispell	MT	59901	6
31	Tessa	Don	445 Ludlow	Kalispell	MT	59901	8
32	Ashley	Tracy	1 Working Way	Kalispell	MT	59901	1
33	Mark	Crowe	90122 105th Avenue	Kalispell	MT	59901	12
34	Jon	Axtman	77790 West Friday Circle	Portland	OR	90033	6

Quick Sort

- Select all the data you want to sort. This will sort data only by the first column, but you need to select all the columns to be sure the data stays together correctly.

	B	C
Wagg	Kris	
Haugen	Sylvia	
Fishburn	Larry	
Bates	Bert	

- Click the A-Z or Z-A quicksort icon.



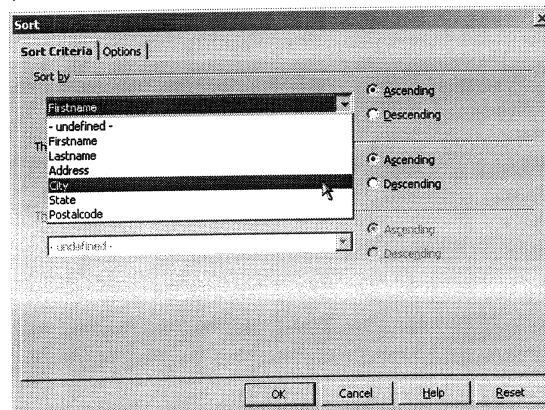
- The data will be sorted.

	B	C
Bates	Bert	
Fishburn	Larry	
Haugen	Sylvia	
Wagg	Kris	

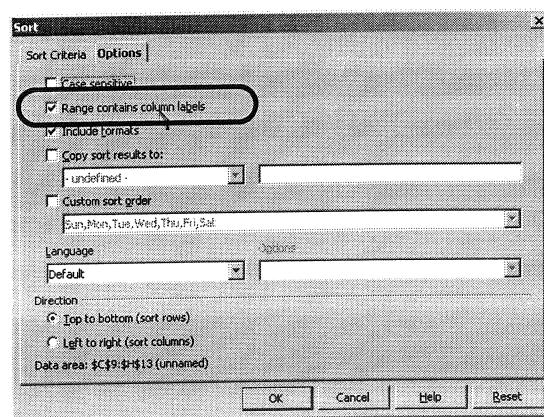
Sorting Using the Sort Window

Here's the best way to sort basic data. Let's say you've got a big list of names and you'd just like to see them in alphabetical order so it's easier to use.

- 1 Select all the data you want to sort, *including the headings*. This will make it easier to specify which columns to sort by. Select just the data to sort, not the whole sheet.
- 2 Choose Data > Sort.
- 3 In the Sort window, select the column to sort by, and whether you want to sort in Ascending (A to Z or 1 to 10) or Descending order.



- 4 Click the Options tab and mark the Range Contains Column Labels option.



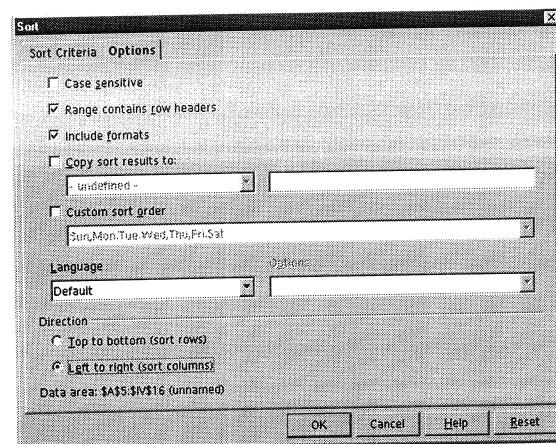
- 5 Click OK.

Sorting Left to Right

Sometimes the categories you want to sort by are on the vertical axis, in rows, as in this example. The sorting process is similar to the standard top-to-bottom approach; you just need to specify that you're sorting left to right instead of top to bottom.

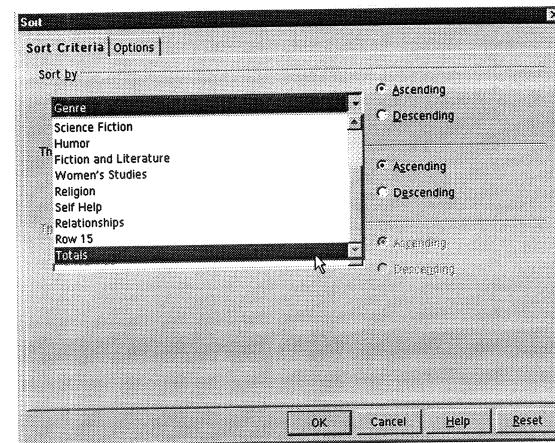
- 1 Select the data you want to sort, including the headings.
- 2 Choose Data > Sort.
- 3 In the Sort window, click the Options tab.
- 4 Select the options shown: select Left to Right (Sort Columns) to specify left-to-right sorting, and also mark the Range Contains Row Headers option to indicate that the first column of data is headers, not data to be sorted.

	A	B	C	D	E	
1	2002 Working Knowledge Salespeople Sales Figures					
2						
3	Broken down by genre					
4						
5	Genre	Gutenberg	Hanson	Lundsverk	Martin	
6	Romance	\$1,552.00	\$3,977.00	\$2,990.00	\$2,900.00	
7	History	\$223.00	\$889.00	\$2,990.00	\$900.00	
8	Science Fiction	\$2,004.00	\$8,990.00	\$4,094.00	\$5,500.00	
9	Humor	\$2,005.00	\$5,899.00	\$4,022.00	\$6,778.00	
10	Fiction and Literature	\$45,566.00	\$8,990.00	\$6,678.00	\$1,344.00	
11	Women's Studies	\$2,448.00	\$24,467.00	\$2,611.00	\$56,678.00	
12	Religion	\$120.00	\$399.00	\$1,122.00	\$1,240.00	
13	Self Help	\$2,955.00	\$6,793.00	\$6,688.00	\$7,655.00	
14	Relationships	\$5,667.00	\$5,388.00	\$9,844.00	\$8,002.00	
15						
16	Totals	\$62,340.00	\$65,192.00	\$41,039.00	\$90,997.00	



- 5 Click the Sort Criteria tab.

- 6 Select the normal sort options; the row to sort by and Ascending or Descending.



- 7 Click OK.

- 8 The data will be sorted from least to greatest (ascending) total sales.

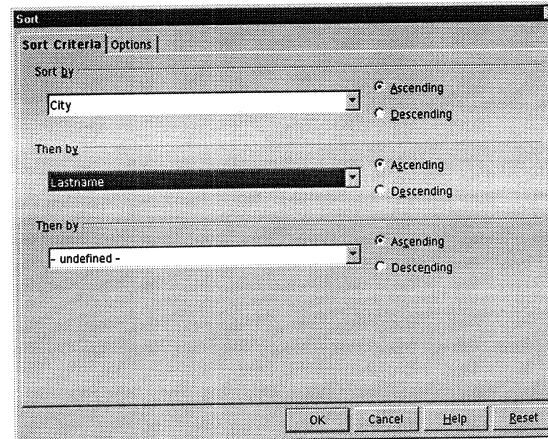
	A	B	C	D	E
1 2002 Working Knowledge Salespeople Sales Figures					
2					
3 Broken down by genre					
5	Genre	Lundsverk	Gutenberg	Hanson	Martin
6	Romance	\$2,990.00	\$1,392.00	\$3,377.00	\$2,900.00
7	History	\$2,990.00	\$223.00	\$889.00	\$900.00
8	Science Fiction	\$4,094.00	\$2,004.00	\$8,990.00	\$5,500.00
9	Humor	\$4,022.00	\$2,005.00	\$5,899.00	\$6,778.00
10	Fiction and Literature	\$6,678.00	\$45,566.00	\$8,990.00	\$1,344.00
11	Women's Studies	\$2,611.00	\$2,448.00	\$24,467.00	\$56,678.00
12	Religion	\$1,122.00	\$120.00	\$399.00	\$1,240.00
13	Self Help	\$6,689.00	\$2,955.00	\$6,793.00	\$7,655.00
14	Relationships	\$9,844.00	\$5,667.00	\$5,388.00	\$8,002.00
15					
16	Totals	\$41,039.00	\$62,340.00	\$65,192.00	\$90,997.00

Sorting Using Two or More Columns as Criteria

Sometimes you need to sort by two or more columns to get the data in the order you need. If you have, for instance, 5000 names of the people in your company, with three locations, you probably want to sort the employees first by location. However, then you have at least 1000 people at each location, in no particular order. To make the data easier to read, sort first by the location, and then by last name.

- 1 Select the data including headings.
- 2 Choose Data > Sort.

- 3 In the Sort Criteria tab, select to sort by up to three columns.

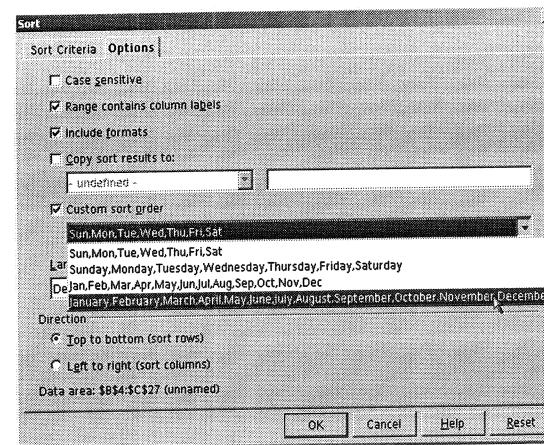


- 4 Click the Options tab and make sure the Range Contains Column Labels is marked.
 5 Click OK. The data will appear sorted as you specified.

Sorting Using Months and Weeks

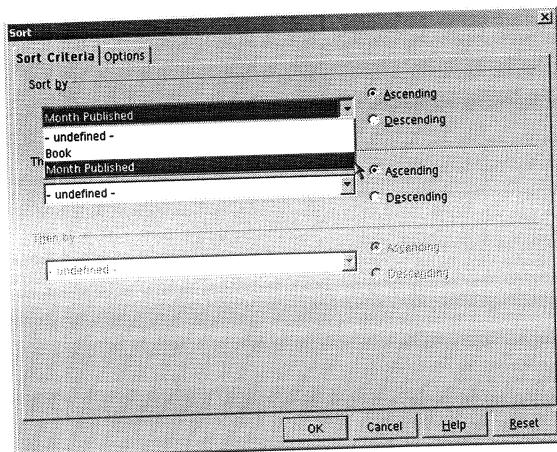
You can sort alphabetically or by numbers but you can also sort based on other things that have a particular order like the days of the week or months.

- Select the data including headings.
- Choose Data > Sort.
- Click the Options tab; you'll see the option to sort by other information.
- Select the Custom Sort Order to use.



- 5 Select the Range Contains Column Labels option.

- 6 Click the Sort Criteria tab and choose to sort by the column containing data corresponding to the sort you chose in the other tab.



- 7 Click OK.

Creating Your Own Sort Order

You can automatically sort by month or day of the week because OpenOffice.org comes with these custom sort orders already set up. You can set up similar sort orders that contain whatever you want. To create your own sort order, see *Quickly Entering Months, Days, or Anything You Want With Sort Lists* on page 277.

Filtering

There are a couple ways to do filter out data so that you see only what you want: a quick simple autofilter that's often good enough as is, and the filter you can define the way you want.

Using the AutoFilter

Here's what the autofilter looks like.

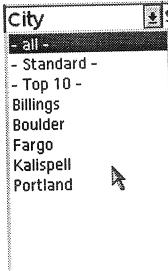
	A	B	C	D	E	F
	Firstname	Lastname	Address	City	State	Postcode
1	Tracy	Falude	1 Working Way	Kalispell	MT	59901
2	Jane	Roberts	101 1st Str	Fargo	ND	56567
3	Kyle	Hansen	1012 2nd Ave	Fargo	ND	58201
4	Mark	Marston	1058 W Ninth	Portland	OR	97201
5	Larry	Richter	112 Main Avenue	Billings	MT	59101
6	Steve	Warner	West	Boulder	CO	80301
7	Simon	Johnson	12 Main St	Fargo	ND	58101
8	Siri	Johnson	12 Main St	Portland	OR	97201
9	Doug	Borgum	2 Working Way	Fargo	ND	58201
10	Stephanie	Mindrum	223 Westwood	Boulder	CO	80301
11	Jeff	Bates	966 W 7th	Billings	MT	59101
12	Michelle	Forthum	39 Working Way	Kalispell	MT	59901
13	Don	Barton	445 Ludlow	Kalispell	MT	59901
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						

Let's say that you've got an enormous list of people in a spreadsheet, and you just want the ones from a particular town. That's a good example of when to use the autofilter. Autofilter lets you pick one value for a column, like "Boulder" for the City column, and view the rows in the spreadsheet with "Boulder" in the City column.

- 1 Choose Data > AutoFilter.
- 2 Dropdown arrows will appear at the top of each column. This means you can restrict what you see in the spreadsheet to rows with a particular value.

	A	B	C	D	E	F
1	Firstname	Lastname	Address	City	State	Postcode
2	Jane	Roberts	101 1st Str	Fargo	ND	56567
3	Mark	Crowe	90122 105th Avenue	Kalispell	MT	59901
4	Stan	Marston	1058 W Ninth	Billings	MT	57788
5	Kathy	Hanson	910 Harrison Dr	Portland	OR	90033
6	Bryan	Togerson	78 West County Line Rd	Boulder	CO	80302
7	Simon	Johnson	12 Main St	Fargo	ND	56567
8	Don	Barton	445 Ludlow	Kalispell	MT	59901
9	Jeff	Bates	366 W 7th	Billings	MT	57788
10	Jenna	Curliner	88 E 105th	Portland	OR	90033
			944 Madison			

- 3 Click and hold down the arrow and select a value.



- 4 The spreadsheet will filter out everyone except the rows with that value.

	A	B	C	D	E	F
1	Firstname	Lastname	Address	City	State	Postcode
3	Mark	Crowe	90122 105th Avenue	Kalispell	MT	59901
8	Don	Barton	445 Ludlow	Kalispell	MT	59901
19	Beth	Jerlin	455 Reserve Drive	Kalispell	MT	59901
27	Michelle	Fortnum	39 Working Way	Kalispell	MT	59901
29	Tracy	Falude	1 Working Way	Kalispell	MT	59901

- 5 To go back to showing all, click and hold down on the column's arrow (blue now) and choose All.
- 6 When you're done, choose Data > Filter > AutoFilter again to turn off the filter.

❖ Advanced Filter:-

Filtering Data using Advanced Filter

Filtering data with multiple conditions using advanced filter in Openoffice spreadsheet?

Explanation

The advanced filter option allows up to eight filter conditions.

To use Advanced Filter, follow the below steps

Step 1: Select the columns which contain the data to filter.

Step 2: In the home tab, select Data→ Filter→Advanced Filter

The screenshot shows a spreadsheet titled "Save File.ods - OpenOffice Calc". The data is organized into two tables. The first table has columns A1:D16 and contains data for employees from 1 to 20, with columns S.NO, Name, Salary, and Experience. The second table has columns G:H and contains filter criteria: Salary <200000 and Experience >5. The "Data" menu is open, and the "Filter" submenu is selected. The "Advanced Filter..." option is highlighted. A context menu is also visible over the first table, with "Advanced Filter..." also highlighted. A watermark for "short tutotials.com" is present in the bottom right corner.

S.NO	Name	Salary	Experience
1	Raj	2424	
2	Kala	2221	
3	Mala	322	
4	Malar	3232	
5	Mani	346	
6	Kumar	789	
7	Raja	66565	2
8	Venkey	665656	5
9	Kant	78978	2
10	Mant	78978	52
11	Tena	436636	8
12	Meena	78978	1
13	Lalitha	78978	2
14	Kanal	569865	8
15	Rajini	636346	5
16	Mooni	87997	2
17	Raj	789789	52
18	Kala	89797987	5
19	Mala	789789	5
20	Malar	78978	55

Salary	Experience
<200000	>5

Step 3: Then select the cell containing the filter condition and click the **More** option.

Step 4: Choose **Copy results to** (option to display the result in another part rather than replacing the original content) and click on the cell where you want your result to be entered.

Save File.ods - OpenOffice Calc

File Edit View Insert Format Tools Data Window Help

Times New Roman 10 B U I C S E F G H

S.NO	Name	Salary	Experience	S.No	Name	Salary	Experience
1	Raj	2424545	2	2		<200000	>5
2	Kala	2221212	3	3			
3	Mala	3232323	45	45			

Advanced Filter

Read filter criteria from:

Options:

- Case sensitive
- Regular expressions
- Range contains column labels
- No duplication
- Copy results to:
- Keep filter criteria

Data range: \$Sheet1.\$A\$1:\$D\$16 (unnamed)

OK Cancel Help More ▾

S.NO	Name	Salary	Experience
14	Kamal	569865	8
15	Rajini	636346	5
16	Moori	87997	2
17	Raj	789789	52
18	Kala	89797987	5
19	Mala	789789	5
20	Malar	78978	55

Step 5: Result is displayed in the below image,

Save File.ods - OpenOffice Calc

File Edit View Insert Format Tools Data Window Help

Times New Roman 10 B U I C S E F G H

S.NO	Name	Salary	Experience	S.NO	Name	Salary	Experience
1	Raj	2424545	2	2		<200000	>5
2	Kala	2221212	3	3			
3	Mala	3232323	45	45			
4	Malar	3232112	4				
5	Maru	346363	412				
6	Kumar	789789	55				
7	Raja	66565	2				
8	Venkey	665656	5				
9	Kant	78978	2				
10	Mant	78978	52	10	Mant	78978	52
11	Tena	436636	8				
12	Meena	78978	1				
13	Latha	78978	2				
14	Kamal	569865	8				
15	Rajini	636346	5				
16	Moori	87997	2				
17	Raj	789789	52				
18	Kala	89797987	5				
19	Mala	789789	5				
20	Malar	78978	55				

Goal Seek: ↗

Usually, you run a formula to calculate a result based upon existing values. By contrast, using **Tools > Goal Seek**, you can discover what values will produce the result that you want.

To take a simple example, imagine that the Chief Financial Officer of a company is developing sales projections for each quarter of the forthcoming year. She knows what the company's total income must be for the year to satisfy stockholders.

Goal Seek example

To calculate annual interest (I), create a table with the values for the capital (C), number of years (n), and interest rate (i). The formula is $I = C \cdot n \cdot i$.

For this example, calculate how much capital C would be required if you want an annual return of \$15,000. Enter each of the values mentioned above into adjacent cells (for Capital C , an arbitrary value like \$100,000 or it can be left blank; for number of years n , 1; for interest rate i , 7.5%). Enter the formula to calculate the interest I in another cell. Instead of C , n , and i use the reference to the cell with the corresponding value. In our example, this would be $=B1*B2*B3$.

1. Place the cursor in the formula cell (B4), and choose **Tools > Goal Seek**.
2. On the Goal Seek dialog, the correct cell is already entered in the *Formula cell* field.
3. Place the cursor in the *Variable cell* field. In the sheet, click in the cell that contains the value to be changed, in this example it is B1.
4. Enter the desired result of the formula in the *Target value* field. In this example, the value is 15000. The figure below shows the cells and fields.

	A	B	C	D	E	F	G	H	I
1		100000							
2			1						
3			7.50%						
4			7500						
5									
6									
7									
8									
9									
10									
11									
12									
13									

Example setup for goal seek

5. Click **OK**. A dialog appears informing you that the Goal Seek was successful. Click **Yes** to enter the result in the cell with the variable value. The result is shown below.

	A	B	C
1		200000	
2		1	
3		7.50%	
4		15000	
5			

Result of goal seek operation

1. Protection of a Sheet

To write-protect all of the cells of a sheet, you have to do the following:

- Select **Tools-Protect Document** from the Menu Bar,
- if you choose **Sheet...**, only your current sheet will be protected from writing,
- If you choose **Document...**, your whole document (workbook) will be protected.

You are not obliged to enter a password, you can simply click on the **OK** button to close the dialog window without typing anything. However, if you choose a password, it will be requested every time you wish to modify the cells or the sheet.

To eliminate the protection, choose **Tools-Protect Document** again and deselect the **Sheet...** or **Document...** option, eventually typing the password you have set, when requested.

2. Protection of a cell or of a cells group inside a document

- Select a range or all the cells of your sheet, with **CTRL+A** or by clicking the gray rectangle between the rows and columns headings,
- In the **Format** menu, select **Cell** and from the dialog window that will appear, switch to the **Cell Protection** tab,
- Deselect the check box called **Protected** (the cells are protected by default),
- Then select the cells you wish to protect,
- From the Menu bar choose **Tools-Protection-Sheet...**,
- By choosing **Format -Cell** and by checking the **Protected** check box again, it will protect the selected cells.

* Data Pilots (Pivot Tables) in Calc

8 simple steps to creating pivot tables in OpenOffice Calc

Pivot tables are a useful and relatively simple way of computing, arranging, and displaying data to read and understand.

In the sample file there is a list of Invoice Numbers, four store names, five different book titles, and the total amount sold of a given title by a given store on a given date.

This tutorial shows one way of arranging the data so that one can see the total amount that each store sold of each book, along with the amount the company made from each title's sales, and how much each store made from the sales of all the books.

Here are the steps:

Step 1: Check and make sure that OpenOffice is installed on the computer that you're using. It should be installed on all the Commons computers and the desk computers. If it isn't installed, you will have to download it for free from <http://openoffice.org>.

Step 2: Download a sample data sheet, or create your own data. One sample data sheet is available at <http://www.cs.mun.ca/~hje227/W14/W14CS8/sampleddata.ods>, but there are many of these across the Interwebz.

Step 3: Select the first cell in your sheet of data.

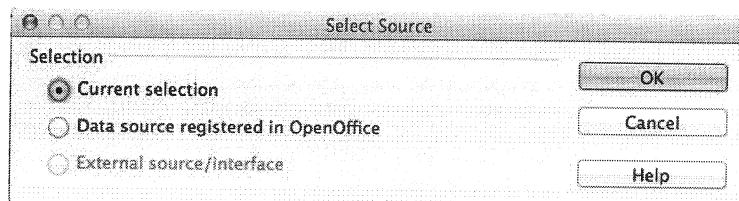
First cell
ex. A1

	A	B	C	D
1	Invoice	Store	Book	Amount
2	I7788K30	Fargo	Head First Java	
3	I7788K29	Billings	Head First Java	
4	I7788K31	Boulder	Head First Java	
5	I7788K32	Fargo	Many Are the Miles	
6	I7788K11	Boulder	Head First Java	
7	I7788K12	Minot	Head First Java	
8	I7788K33	Boulder	Many Are the Miles	
9	I7788K36	Fargo	Head First Java	
10	I7788K37	Boulder	Head First Java	
11	I7788K34	Minot	Many Are the Miles	
12	I7788K35	Billings	Gray Mountain	
13	I7788K16	Boulder	Why Not Minot	

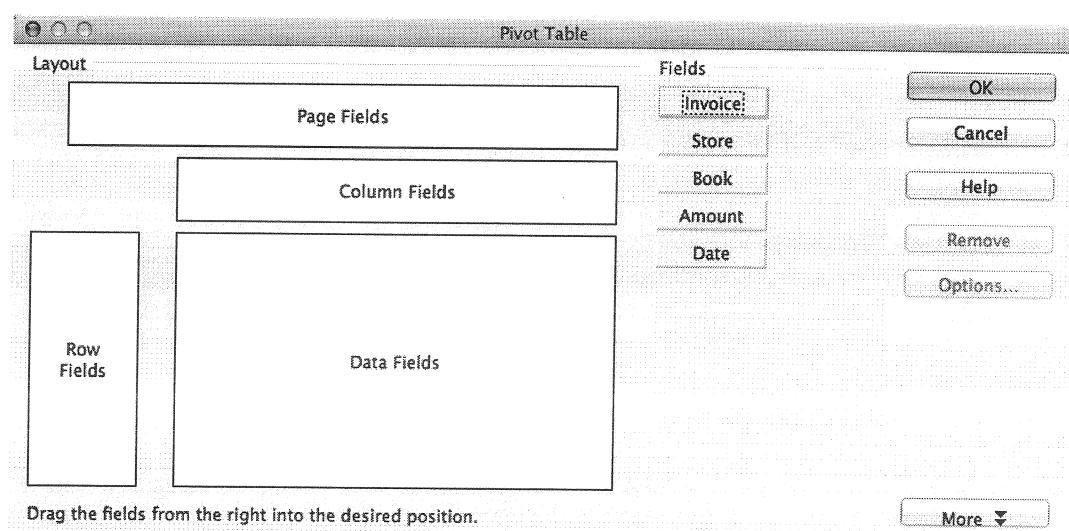
Step 4: In the “Data” menu, select “Pivot Table” and choose “Create”

A screenshot of a spreadsheet application window titled "datapiotlspres". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The "Data" menu is open, showing options like Define Range..., Select Range..., Sort..., Filter, Subtotals..., Validity..., Multiple Operations..., Text to Columns..., Consolidate..., Group and Outline, Pivot Table, Create..., Refresh Range, Refresh, and Delete. The "Pivot Table" option is highlighted. The main spreadsheet area shows a table with columns for Invoice, Store, and Amount. The bottom status bar indicates Sheet 1 / 3, Default, STD, Sum=0, and 100%.

Step 5: You will get a screen like this one shown. Make sure “Current Selection” is chosen and click OK.

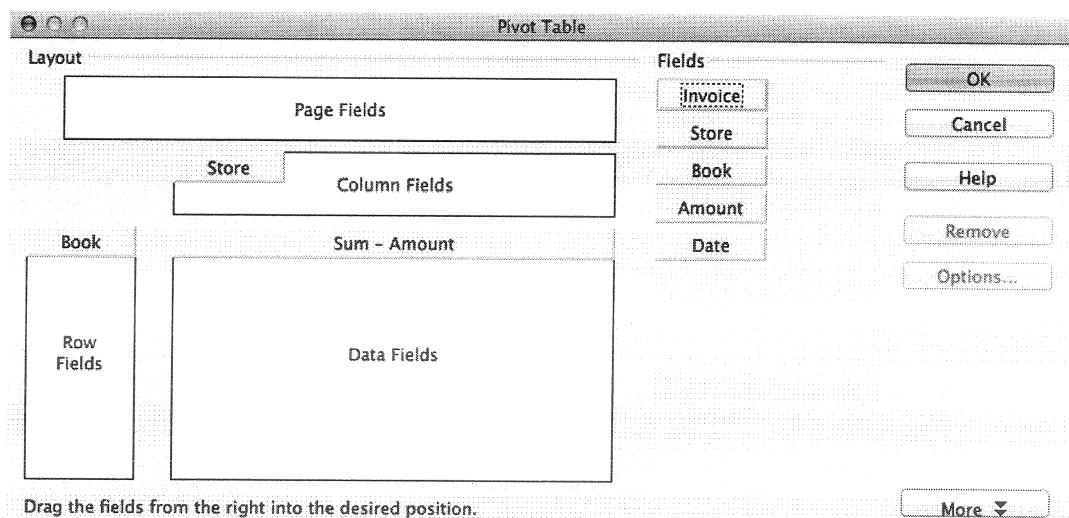


Step 6: A wild pivot table box appeared.



Step 7: Commons Employee used Mad Skills.

This is where you select what type of data is to appear in which part of the pivot table. This all depends on what type of data you want to view and how you want it to appear.



Step 8: It's super effective.

36	I7788K9	Billings	Gray Mountain	\$34,422.00	01-01-23
37	I7788K28	Minot	Gray Mountain	\$767.00	01-01-23
38					
39	Filter				
40					
41	Sum - Amount	Store			
42	Book	Billings	Boulder	Fargo	Minot
43	Gray Mountain	\$112,720.00	\$13,152.00	\$13,029.00	\$2,301.00
44	Head First Java	\$41,887.00	\$2,301.00	\$19,728.00	\$2,343.00
45	Many Are the Miles		\$10,900.00	\$34,422.00	\$767.00
46	The Big Picture: J2EE		\$8,919.00	\$978.00	\$87,090.00
47	Why Not Minot	\$11,408.00	\$8,648.00	\$12,099.00	\$43,545.00
48	Total Result	\$166,015.00	\$43,920.00	\$80,256.00	\$136,046.00
49					\$426,237.00

Tada. You made a pivot table!

I recommend you to try placing the data types in different spots to show the results in different orders. I hope this wasn't too difficult!

Introduction

Charts and graphs can be powerful ways to convey information to the reader. OpenOffice.org Calc offers a variety of different chart and graph formats for your data.

Using Calc, you can customize charts and graphs to a considerable extent. Many of these options enable you to present your information in the best and clearest manner.

For readers who are interested in effective ways to present information graphically, two excellent introductions to the topic are William S. Cleveland's *The elements of graphing data*, 2nd edition, Hobart Press (1994) and Edward R. Tufte's *The Visual Display of Quantitative Information*, 2nd edition, Graphics Press (2001).

Creating a chart

To demonstrate the process of making charts and graphs in Calc, we will use the small table of data in Figure 1.

C11		A	B	C	D	E
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						

Figure 1: Table of data for charting examples

To create a chart, first highlight (select) the data to be included in the chart. The selection does not need to be in a single block, as shown in Figure 2; you can also choose individual cells or groups of cells (columns or rows). See Chapter 1 (Introducing Calc) for more about selecting cells and ranges of cells.

A2:D8 fx Σ = 52

	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				

Figure 2: Selecting data for plotting

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

- 1) Choose **Insert > Chart** from the menu bar.
- 2) Or, click the **Chart** icon on the main toolbar.

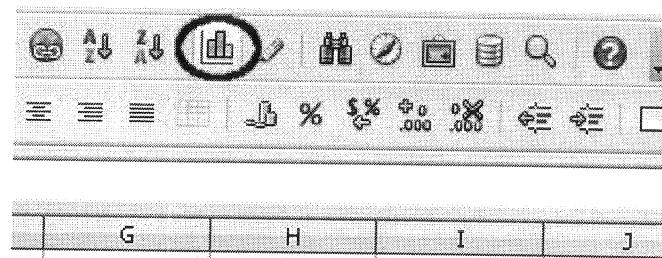


Figure 3: Insert chart from main toolbar

Either method inserts a sample chart on the worksheet, opens the Formatting toolbar, and opens the Chart Wizard, as shown in Figure 4.

Tip

Before choosing the Chart Wizard, place the cursor anywhere in the area of the data. The Chart Wizard will then do a fairly good job of guessing the range of the data. Just be careful that you have not included the title of your chart.

06/14

Creating Charts and Graphs

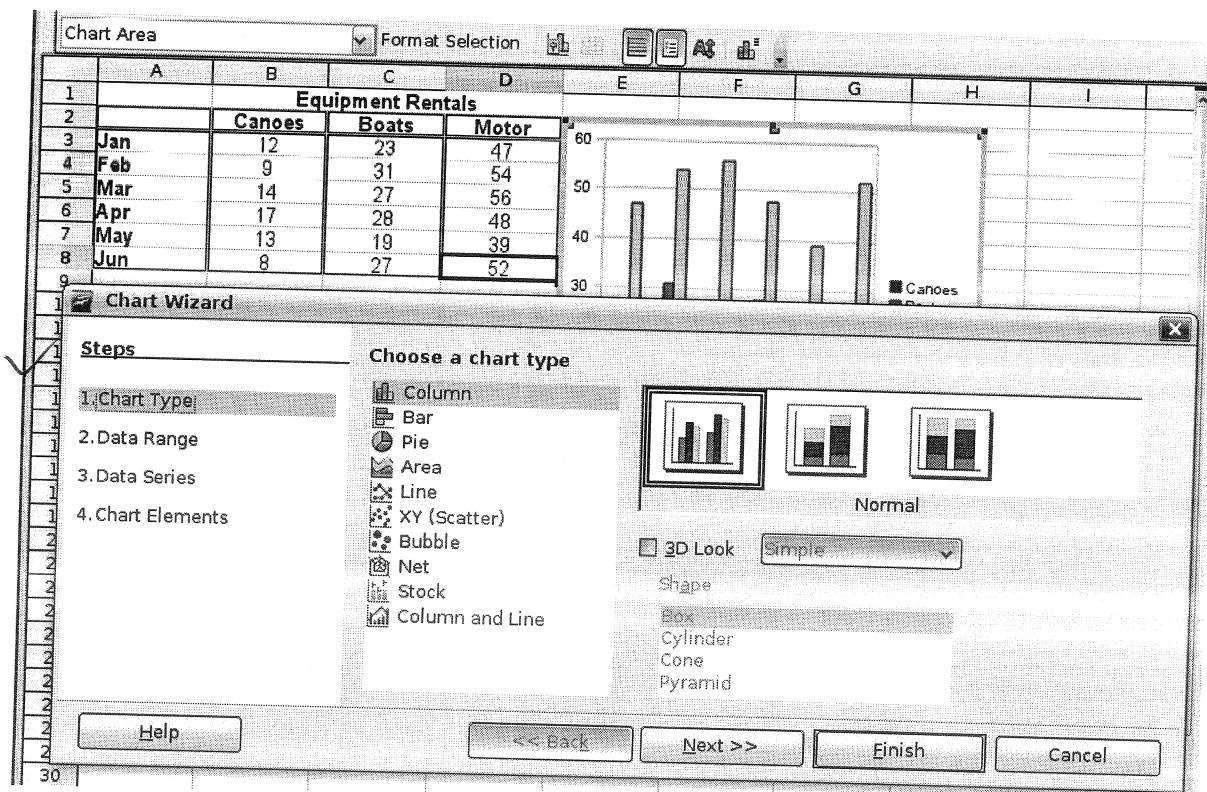


Figure 4: Chart Wizard, Step 1—Choose a chart type

Step 1. Choosing a chart type

The Chart Wizard includes a sample chart with your data. This sample chart updates to reflect the changes you make in the Chart Wizard."

The Chart Wizard has three main parts: a list of steps involved in setting up the chart, a list of chart types, and the options for each chart type. At any time you can go back to a previous step and change selections.

Calc offers a choice of 10 basic chart types, with a few options for each type of chart. The options vary according to the type of chart you pick.

The first tier of choice is for two-dimensional (2D) charts. Only those types which are suitable for 3D (Column, Bar, Pie, and Area) give you an option to select a 3D look.

On the Choose a chart type page (Figure 4), select a type by clicking on its icon. The preview updates every time you select a different type of chart, and provides a good idea of what the finished chart will look like.

The current selection is highlighted (shown with a surrounding box) on the Choose a chart type page. The chart's name is shown just below

the icons. For the moment, we will stick to the Column chart and click on **Next** again.

Step 2 **Changing data ranges and axes labels**

In Step 2, Data Range, you can manually correct any mistakes you have made in selecting the data.¹⁴

On this page you can also change the way you are plotting the data by using the rows—rather than the columns—as data series. This is useful if you use a style of chart such as Donut or Pie to display your data.

Lastly, you can choose whether to use the first row or first column, or both, as labels on the axes of the chart.

You can confirm what you have done so far by clicking the **Finish** button, or click **Next** to change some more details of the chart.

We will click **Next** to see what we can do to our chart using the other pages of the Wizard.

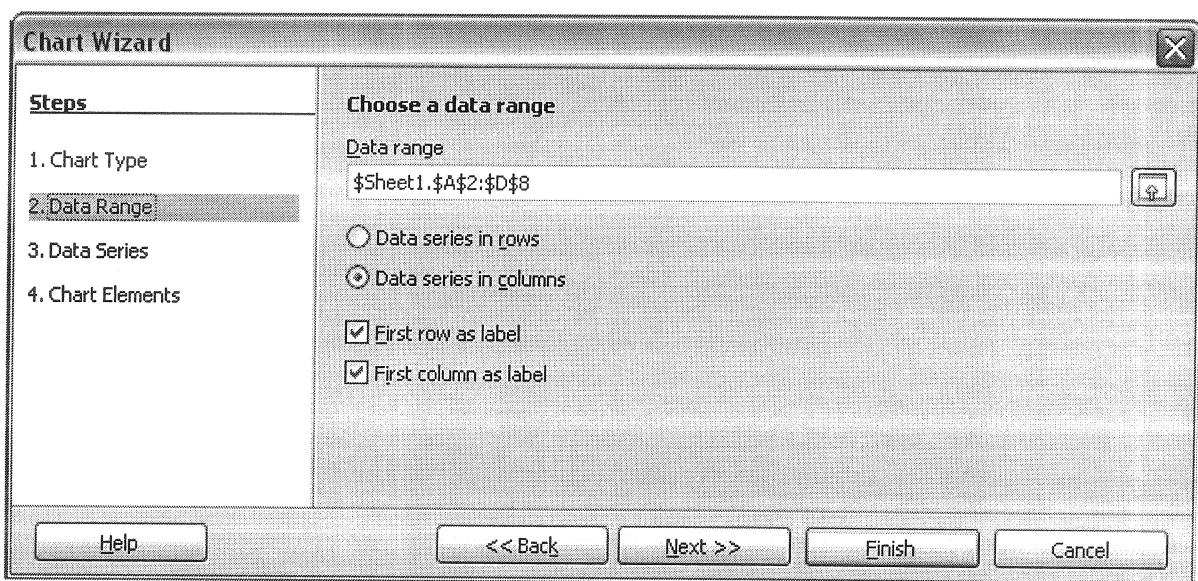


Figure 5: Changing data ranges and axes labels

08/14

Creating Charts and Graphs

Selecting data series

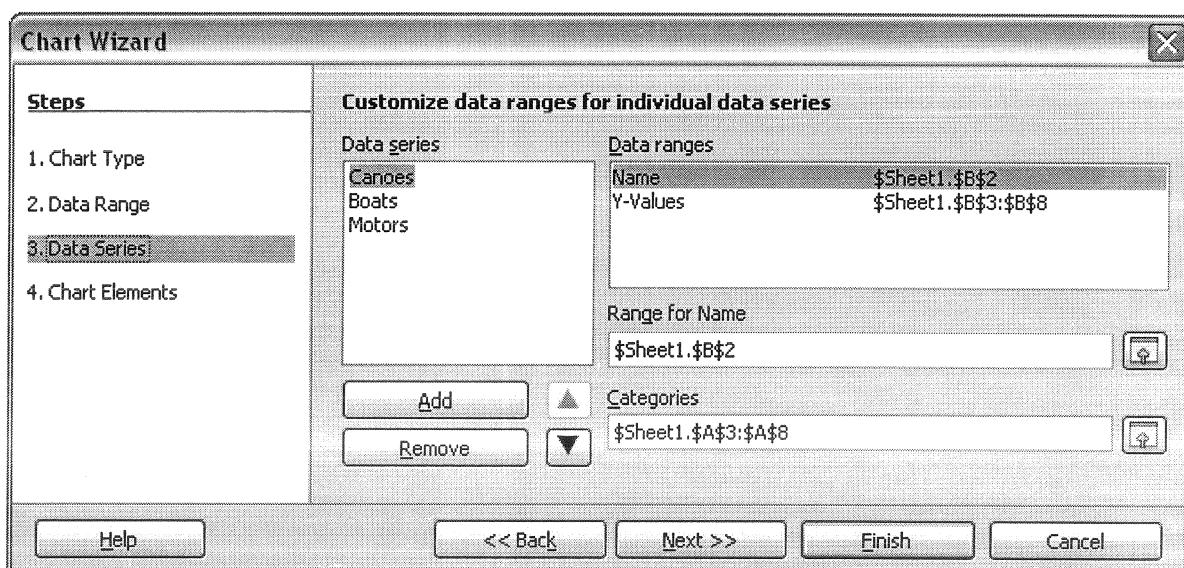


Figure 6: Amending data series and ranges

On the Data Series page, you can fine tune the data that you want to include in the chart. Perhaps you have decided that you do not want to include the data for canoes. If so, highlight Canoes in the **Data series** box and click on **Remove**. Each named data series has its ranges and its individual Y-values listed. This is useful if you have very specific requirements for data in your chart, as you can include or leave out these ranges.

Tip

You can click the Shrink button  next to the *Range for Name* box to work on the spreadsheet itself. This is handy if your data ranges are larger than ours and the Chart Wizard is in the way.

Another way to plot any unconnected columns of data is to select the first data series and then select the next series while holding down the *Ctrl* key. Or you can type the columns in the text boxes. The columns must be separated by semi-colons. Thus, to plot **B3:B11** against **G3:G11**, type the selection range as **B3:B11;G3:G11**.

The two data series you are selecting must be in separate columns or rows. Otherwise Calc will assume that you are adding to the same data series.

Click **Next** to deal with titles, legend and grids.

Step 4: Adding or changing titles, legend, and grids

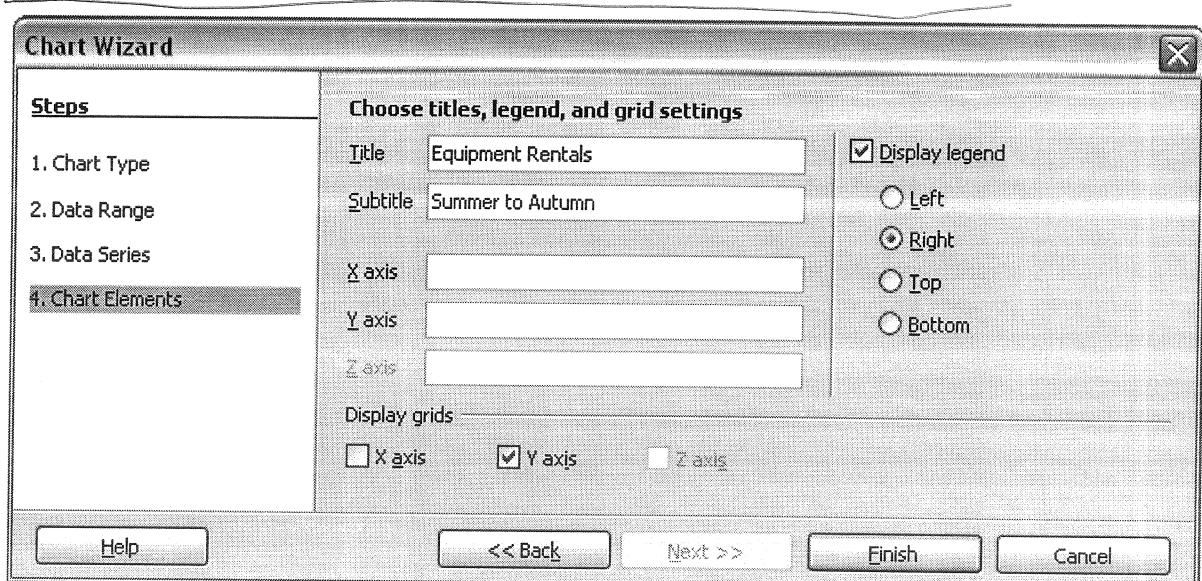


Figure 7: Titles, legend and grids

On the Chart Elements page, you can give your chart a title and, if desired, a subtitle. Use a title that draws the viewers' attention to the purpose of the chart: what you want them to see. For example, a better title for this chart might be *The Performance of Motor and Other Rental Boats*.

It may be of benefit to have labels for the x axis or the y axis. This is where you give viewers an idea as to the proportion of your data. For example, if we put Thousands in the y axis label of our graph, it changes the scope of the chart entirely. For ease of estimating data you can also display the x or y axis grids by selecting the *Display grids* options.

You can leave out the legend or include it and place it to the left, right, top or bottom.

To confirm your selections and complete the chart, click **Finish**.



Editing charts :-

After you have created a chart, you may find things you would like to change. Calc provides tools for changing the chart type, chart elements, data ranges, fonts, colors, and many other options, through the **Insert** and **Format** menus, the right-click (context) menu, and the **Chart** toolbar.

Changing the chart type

You can change the chart type at any time. To do so:

- 1) First select the chart by double-clicking on it. The chart should now be surrounded by a gray border.
- 2) Then do one of the following:
 - Choose **Format > Chart Type** from the menu bar.
 - Click the chart type icon  on the Formatting toolbar.
 - Right-click on the chart and choose **Chart Type**.

In each case, a dialog similar to the one in Figure 4 opens. See page 7 for more information.

Adding or removing chart elements

Figures 8 and 9 show the elements of 2D and 3D charts.

The default 2D chart includes only two of those elements:

- Chart wall contains the graphic of the chart displaying the data.
- Chart area is the area surrounding the chart graphic. The (optional) chart title and the legend (key) are in the chart area.

The default 3D chart also has the *chart floor*, which is not available in 2D charts.

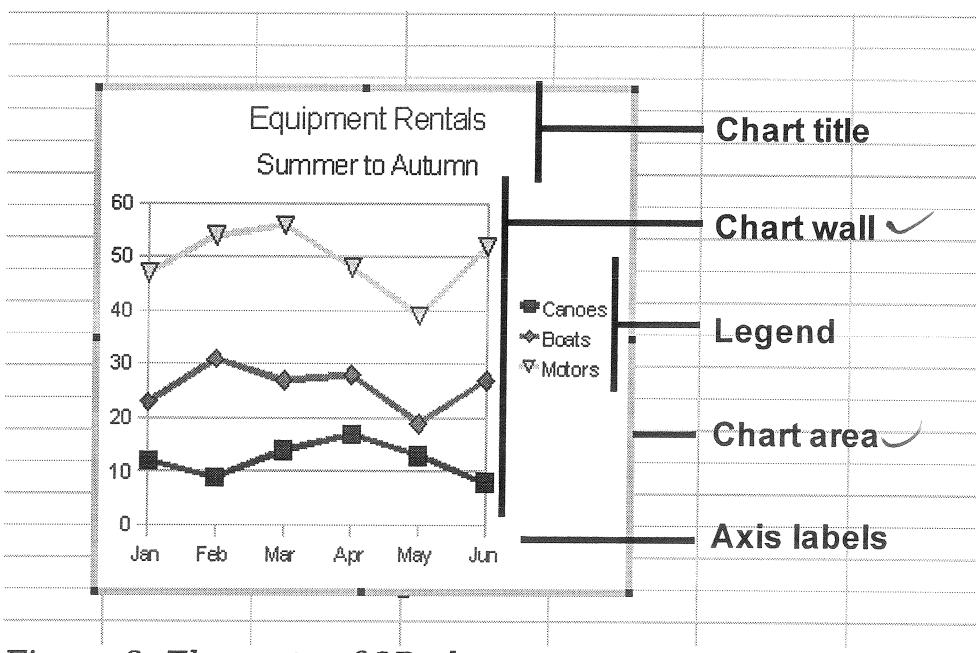


Figure 8: Elements of 2D chart

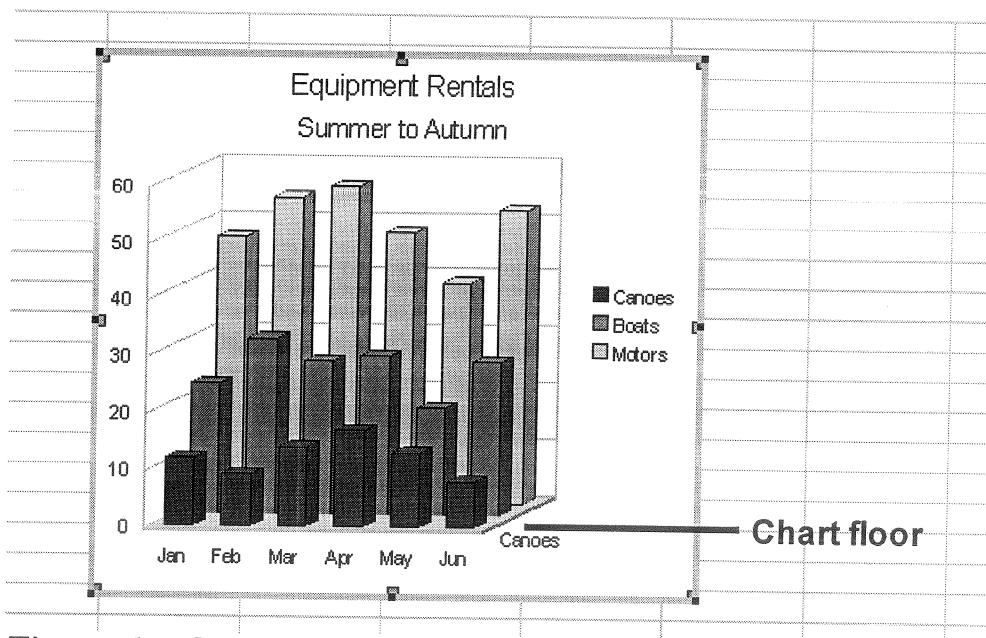


Figure 9: Elements of 3D chart

You can add other elements using the commands on the **Insert** menu. The various choices open dialogs in which you can specify details.

First select the chart so the green sizing handles are visible. This is done with a single click on the chart.

The dialogs for Titles, Legend, Axes, and Grids are self-explanatory. The others are a bit more complicated, so we'll take a look at them here.

Data labels

Data labels put information about each data point on the chart. They can be very useful for presenting detailed information, but you need to be careful to not create a chart that is too cluttered to read.

Choose **Insert > Data Labels**. The options are as follows.

Show value as number

Displays the numeric values of the data points. When selected, this option activates the **Number format...** button.

Number format...

Opens the Number Format dialog, where you can select the number format. This dialog is very similar to the one for formatting numbers in cells, described in Chapter 2 (Entering, Editing, and Formatting Data).

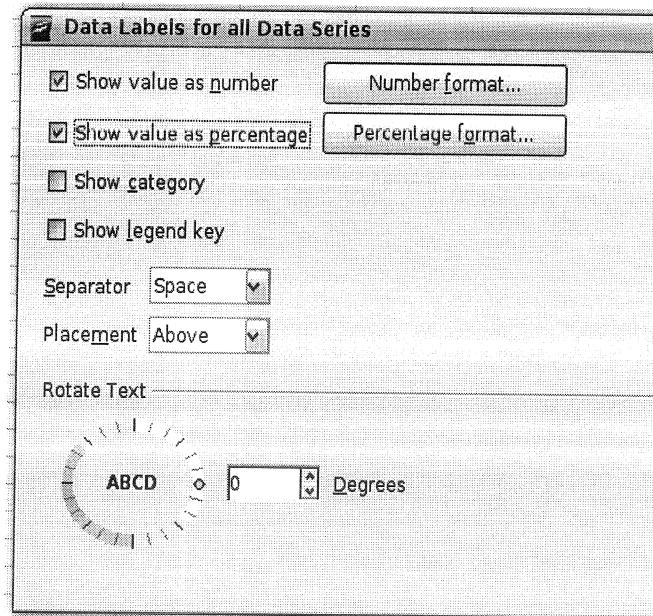


Figure 10: Data Labels dialog

Show value as percentage

Displays the percentage value of the data points in each column. When selected, this option activates the Percentage format... button.

Percentage format...

Opens the Number Format dialog, where you can select the percentage format.

Show category

Shows the data point text labels.

Show legend key

Displays the legend icons next to each data point label.

Separator

Selects the separator between multiple text strings for the same object.

Placement

Selects the placement of data labels relative to the objects.

Figure 22 on page 28 shows examples of values as text (neither *Show value as number* nor *Show value as percentage* selected) and values as percentages, as well as when data values are used as substitutes for legends or in conjunction with them.

Trend lines

When you have a scattered grouping of points in a graph, you may want to show the relationship of the points. A trend line is what you need. Calc has a good selection of regression types you can use for trend lines: linear, logarithm, exponential, and power. Choose the type that comes closest to passing through all of the points.

To insert trend lines for all data series, double-click the chart to enter edit mode. Choose **Insert > Trend Lines**, then select the type of trend line from *None*, *Linear*, *Logarithmic*, *Exponential*, or *Power*. You can also choose whether to show the equation for the trend line and the coefficient of determination (R^2).

To insert a trend line for a single data series, first select the data series in the chart, and then right-click and choose **Insert > Trend Line** from the context menu. The dialog for a single trend line is similar to the one below but has a second tab (Line), where you can choose attributes (style, color, width, and transparency) of the line.

To delete a single trend line or mean value line, click the line, then press the *Del* key.

To delete all trend lines, choose **Insert > Trend Lines**, then select **None**.

A trend line is shown in the legend automatically.

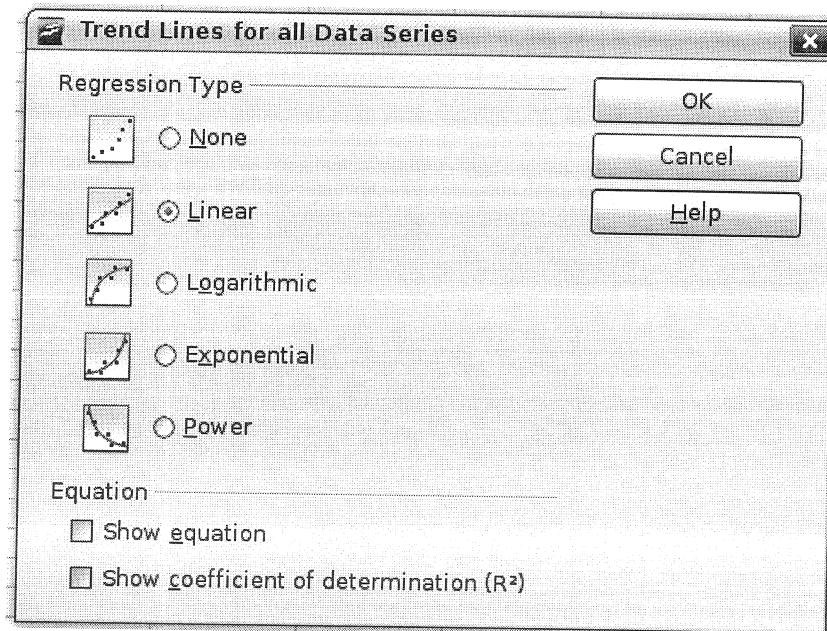


Figure 11: Trend Lines dialog

Introduction to Linux

What is Linux?

Just like Windows XP, Windows 7, Windows 8, and Mac OS X, Linux is an operating system. An operating system is software that manages all of the hardware resources associated with your desktop or laptop. To put it simply – the operating system manages the communication between your software and your hardware. Without the operating system (often referred to as the "OS"), the software wouldn't function.

Or

Linux (often pronounced LIH-nuhks with a short "i") is a Unix-like operating system that was designed to provide personal computer users a free or very low-cost operating system comparable to traditional and usually more expensive Unix systems.

1) Explore All UNIX Commands given in this manual.

Files

- **ls** --- lists your files
ls -l --- lists your files in 'long format', which contains lots of useful information, e.g. the exact size of the file, who owns the file and who has the right to look at it, and when it was last modified.
ls -a --- lists all files, including the ones whose filenames begin in a dot, which you do not always want to see.
 There are many more options, for example to list files by size, by date, recursively etc.
- **more *filename*** --- shows the first part of a file, just as much as will fit on one screen. Just hit the space bar to see more or **q** to quit. You can use **/pattern** to search for a pattern.
- **emacs *filename*** --- is an editor that lets you create and edit a file. **mv *filename1 filename2*** --- moves a file (i.e. gives it a different name, or moves it into a different directory (see below)
- **cp *filename1 filename2*** --- copies a file
- **rm *filename*** --- removes a file. It is wise to use the option **rm -i**, which will ask you for confirmation before actually deleting anything. You can make this your default by making an alias in your **.cshrc** file.
- **diff *filename1 filename2*** --- compares files, and shows where they differ
- **wc *filename*** --- tells you how many lines, words, and characters there are in a file
- **chmod *options filename*** --- lets you change the read, write, and execute permissions on your files. The default is that only you can look at them and change them, but you may sometimes want to change these permissions. For example, **chmod o+r *filename*** will make the file readable for everyone, and **chmod o-r *filename*** will make it unreadable for others again. Note that for someone to be able to actually look at the file the directories it is in need to be at least executable.
- File Compression

- **gzip filename** --- compresses files, so that they take up much less space. Usually text files compress to about half their original size, but it depends very much on the size of the file and the nature of the contents. There are other tools for this purpose, too (e.g. **compress**), but gzip usually gives the highest compression rate. Gzip produces files with the ending '.gz' appended to the original filename.
- **gunzip filename** --- uncompresses files compressed by gzip.
- **zcat filename** --- lets you look at a gzipped file without actually having to gunzip it (same as **gunzip -c**). You can even print it directly, using **zcat filename | lpr**
- printing
 - **lpr filename** --- print. Use the -P option to specify the printer name if you want to use a printer other than your default printer. For example, if you want to print double-sided, use 'lpr -Pvalkyr-d', or if you're at CSLI, you may want to use 'lpr -Pcord115-d'. See 'help printers' for more information about printers and their locations.
 - **lpq** --- check out the printer queue, e.g. to get the number needed for removal, or to see how many other files will be printed before yours will come out

Directories, like folders on a Macintosh, are used to group files together in a hierarchical structure.

- **mkdir dirname** --- make a new directory
- **cd dirname** --- change directory. You basically 'go' to another directory, and you will see the files in that directory when you do 'ls'. You always start out in your 'home directory', and you can get back there by typing 'cd' without arguments. 'cd ..' will get you one level up from your current position. You don't have to walk along step by step - you can make big leaps or avoid walking around by specifying pathnames.
- **pwd** --- tells you where you currently are.

Finding things

- **ff** --- find files anywhere on the system. This can be extremely useful if you've forgotten in which directory you put a file, but do remember the name. In fact, if you use **ff -p** you don't even need the full name, just the beginning. This can also be useful for finding other things on the system, e.g. documentation.
- **grep string filename(s)** --- looks for the string in the files. This can be useful a lot of purposes, e.g. finding the right file among many, figuring out which is the right version of something, and even doing serious corpus work. grep comes in several varieties (**grep**, **egrep**, and **fgrep**) and has a lot of very flexible options. Check out the man pages if this sounds good to you.

About other people

- **w** --- tells you who's logged in, and what they're doing. Especially useful: the 'idle' part. This allows you to see whether they're actually sitting there typing away at their keyboards right at the moment.

- **who** --- tells you who's logged on, and where they're coming from. Useful if you're looking for someone who's actually physically in the same building as you, or in some other particular location.
- **finger *username*** --- gives you lots of information about that user, e.g. when they last read their mail and whether they're logged in. Often people put other practical information, such as phone numbers and addresses, in a file called **.plan**. This information is also displayed by 'finger'.
- **last -1 *username*** --- tells you when the user last logged on and off and from where. Without any options, **last** will give you a list of everyone's logins.
- **talk *username*** --- lets you have a (typed) conversation with another user
- **write *username*** --- lets you exchange one-line messages with another user
- **elm** --- lets you send e-mail messages to people around the world (and, of course, read them). It's not the only mailer you can use, but the one we recommend. See the elm page, and find out about the departmental mailing lists (which you can also find in /user/linguistics/helpfile).

About your (electronic) self

- **whoami** --- returns your username. Sounds useless, but isn't. You may need to find out who it is who forgot to log out somewhere, and make sure *you* have logged out.
- **finger & .plan files**
of course you can finger yourself, too. That can be useful e.g. as a quick check whether you got new mail. Try to create a useful **.plan** file soon. Look at other people's **.plan** files for ideas. The file needs to be readable for everyone in order to be visible through 'finger'. Do 'chmod a+r **.plan**' if necessary. You should realize that this information is accessible from anywhere in the world, not just to other people on turing.
- **passwd** --- lets you change your password, which you should do regularly (at least once a year).
- **ps -u *yourusername*** --- lists your processes. Contains lots of information about them, including the process ID, which you need if you have to kill a process. Normally, when you have been kicked out of a dialin session or have otherwise managed to get yourself disconnected abruptly, this list will contain the processes you need to kill. Those may include the shell (tcsh or whatever you're using), and anything you were running, for example emacs or elm. Be careful not to kill your current shell - the one with the number closer to the one of the ps command you're currently running. But if it happens, don't panic. Just try again :) If you're using an X-display you may have to kill some X processes before you can start them again. These will show only when you use **ps -efl**, because they're root processes.
- **kill *PID*** --- kills (ends) the processes with the ID you gave. This works only for your own processes, of course. Get the ID by using **ps**. If the process doesn't 'die' properly, use the option **-9**. But attempt without that option first, because it doesn't give the process a chance to finish possibly important business before dying. You may need to kill processes for example if your modem connection was interrupted and you didn't get logged out properly, which sometimes happens.

- **quota -v** --- show what your disk quota is (i.e. how much space you have to store files), how much you're actually using, and in case you've exceeded your quota (which you'll be given an automatic warning about by the system) how much time you have left to sort them out (by deleting or gzipping some, or moving them to your own computer).
- **du filename** --- shows the disk usage of the files and directories in *filename* (without argument the current directory is used). **du -s** gives only a total.
- **last yourusername** --- lists your last logins. Can be a useful memory aid for when you were where, how long you've been working for, and keeping track of your phonebill if you're making a non-local phonecall for dialling in.

1) Create a directory. To create a directory, use the **mkdir** command. For example, to create a directory named **Student** within the current working directory:

% mkdir Student

2) Create a Subdirectory in the directory created.

You may create a subdirectory within any directory where you have write permission. For example, to create a directory called **/Student/Subdirectory1**, assuming that directory **/Student** already exist:

% mkdir /Student/Subdirectory1

3) Change your current directory to the subdirectory.

To change the current working directory to the subdirectory, use the **cd** command (this stands for "change directory"). Assuming that the current working Directory is **Student**, to change to the subdirectory **Subdirectory1**:

% cd Subdirectory1

4) Display Calender for the current Month.

To display Calender for the current month use the **CAL** command.

% CAL

5) Get a directory listing of the parent directory.

To get the Directory listing of the parent directory, use the command
ls - list contents of directory.

Goto the parent directory and use **ls** command.

% ls

6) How many users were logged onto your system.

To see all the other users that are currently connected to system simply use the following command **who**. This will simply print out a list of all the users connected (just their usernames however, not their real names), the terminal they're connected to, when they connected and where they connected from.

% who

However to quickly see roughly what the other users of the system are up to use the following command: **% w**

This will show a top line which contains the date, how long the systems been running, how many users are on and whats called the "load average" which is how many processes are contending for the CPU. This is shown as three numbers: the first is for 1 minute ago, the second 5 minutes ago, the third 15. All you really need to know is that small numbers are good here.

After this we will show a header that says what the columns are for, username, tty, when that user logged in, how long they've been idle, the JCPU and the PCPU and finally what the process is. JCPU is the total CPU time used by all the processes attached to that terminal, the PCPU time is just for the current process running in the foreground. Quite often these two numbers will be the same. Knowing exactly what these numbers mean or how to use them isn't really essential knowledge, but can prove useful or interesting.

7) Display the name of device name on your terminal.

To display the device name of the terminal, use the tty command:

The tty utility writes to the standard output the name of the terminal that is open as standard input.

% tty

8). Move to root directory.

To move to root directory use CD command.

% cd

9). Change your directory to the directory exercises. Create a file called example1 using the cat command containing the following text:

Water, water everywhere
And all the boards did shrink;
Water, water everywhere,
No drop to drink.

Assuming that there is a directory called exercises,

To change to directory exercises from the current working directory, use the CD command:

% cd exercises

To create a file in the directory exercises:

% cat > example1.f

Water, water everywhere

And all the boards did shrink;

Water, water everywhere,

No drop to drink.

^D

Be careful not to type ^D when you have the shell prompt, because this might log you out.

10) List text files in your current directory.

To find and list text files in the all the directories, use the FIND command:

% find /home -name "*.txt" -print 2>/dev/null

will search all user directories for any file ending in ".txt" and output any matching files (with a full absolute or relative path). Here the quotes ("") are necessary to avoid filename expansion, while the 2>/dev/null suppresses error messages (arising from errors such as not being able to read the contents of directories for which the user does not have the right permissions).

To find and list text files in the current directory Student:

% find /Student -name "*.txt" -print 2>/dev/null

Another way to find and list text files in the current directory is to use the LOCATE command:

% locate ".txt"

will find all filenames in the file system that contain ".txt" anywhere in their full paths.

One disadvantage of locate is it stores all filenames on the system in an index that is usually updated only once a day. This means locate will not find files that have been created very recently. It may also report filenames as being present even though the file has just been deleted. Unlike find, locate cannot track down files on the basis of their permissions, size and so on.

Another option to find and list text files in the current directory is:

```
% ls -p | grep -v '/' file * | grep text  
% ls -l *.txt ls
```

11) Make a copy of any text file.

To copy any text file to another text file use the cp command:

cp *file1* *file2* is the command which makes a copy of **file1** in the current working directory and calls it **file2**.

First CD to your current directory:

```
% cd ~/Student
```

Then, copy the text file,

```
% cp /unix/examples/copy.txt.
```

(Note: Don't forget the dot (.) at the end. Remember, in UNIX, the dot means the current directory.)

ELSE

```
% cp file1 file2.
```

12) Rename one of your text files in the current directory.

To rename file in current directory use MV move command:

```
% mv file.txt filename.txt mv junk.txt newfile
```

13) Delete an unneeded copy of a file.

To delete a file use the rm remove command:

```
% rm file.txt
```

14) Send message to another user on your UNIX system, and get them to reply.

The `mail` command enables the user to send and receive electronic mail messages to and from users on both the Unix system and remote users.

To send a message to a user on your system, type:

% mail username

The cursor will move to the next line, and you will get a `Subject:` prompt. You can now type in the subject of your message, and then press <RETURN>. The cursor will go to the start of the next line and there will be no prompt. You now type in the text of your message. Terminate each line with <RETURN>. When you have finished the text of the message, type an end-of-file character (usually ^D), or a full-stop character.

There are several commands you can type while entering mail:

- <**CTRL/Z**> will cancel the message, and leave the text in a file named `dead.letter`.
- **^e** invokes a text editor to edit your message.
- **~v** invokes a screen editor to edit your message.
- **~f** reads the contents of the message you have just read, into your message text.
- **~r file** reads contents of `file` into your message text.

15) Create a small text file and send it to another user.

To create a text file, use the `cat` command:

% cat > Student

To send this file to another user user 1:

% mail user1 < Student

Use the re-direction to output stream operation.

16) Send a message to a user on a different computer system.

Sending mail to users on other computer systems is simple using `mail`. Simply type the full address of the remote user.

% mail Student@ignou.ac.in

17) Try to move to the home directory of someone else in your group. There are several ways to do this, and you may find that you are not permitted to enter certain directories. See what files they have, and what the file permissions are.

To move to the home directory of someone else in the group:

% cd ~ user1

To list the files in the directory and their permissions:

% ls -ldg

18) Set permissions on all of your files and directories to those that you want. You may want to give read permission on some of your files and directories to members of your group.

To set permissions on files:

Each file and directory has three kinds of permissions:

read -->	permission to view, print and copy -->	abbreviated r
write -->	permission to change the contents -->	abbreviated w
execute -->	permission to run an executable file --> OR (for example, a program) OR permission to change into a directory	abbreviated x

When setting file/directory permissions, Unix divides the world of users into three classes:

you, the owner -->	abbreviated u
your group -->	abbreviated g
others -->	abbreviated o

You may assign read, write or execute permission independently to any of the three classes of users.

Unix is not capable of permitting files and directories to individual users, but (as explained below) files and directories are usually permitted so that others cannot access them without knowing their absolute pathnames.

Looking at permissions

To see the permissions that have been set for a file, use the ls command with -l option.

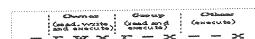
```
% ls -l  
-rw-r----- 1 Student users 21 Jul 5 11:08 file1
```

The first 10 characters of the above line describe the type of the file and the permissions which have been set for it.

The first character shows the file type. It is - (dash) for a standard file and d for a directory.
The next 9 characters are actually 3 sets of 3 characters each. These 3 sets show the permissions for the owner, the group and others. Within each set, permissions are always described in the same order: read (r), write (w) and execute (x). If the relevant letter (r, w or x) appears, permission exists. If a - (dash) appears in its place, that kind of permission is denied.

Let's look at the permissions for another file:

In this example, the owner may read the file, write to it (change it) and execute the file. Members of the group may read and execute the file, but not write to it. Other users may only execute the file,



not read it or write to it.

Execute access permits the execution of binary files which contain executable programs. Both read and execute access are required to execute a shell script.

Default permissions for new files and directories

Default permissions are automatically set for files and directories as you create them.

The default permission for new files is `-rw-----` and that for new directories is `drwx-----`.

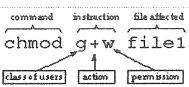
Changing file permissions

The command `chmod` (short for **change mode**) is used to change permissions for a file. `chmod` is used a bit differently from most other Unix commands. To give write permission to the group `users` for `file1` (the first file we examined), we give the command:

`chmod g+w file1`

This may be understood as follows:

		Class		Action		Permission	
u	user (owner)	+		add permission	r	read	
g	group	-		remove permission	w	write	
o	others	=		set permission	x	execute	
a	all						



where class, action and permission can be chosen from the table of options at the right above.

More than one class and more than one type of permission can be set at the same time using `chmod`. For example,

`chmod u+x,o=rw file1`

adds the execute permission for the owner (u) and sets the permission for others to read and write explicitly (no matter what permissions others had before).

If you do not specify a class, the new permission is applied to all three classes. For example,

`chmod +x file`

adds execute permission for the owner, group and others.

To change the permission of all files in a directory, use the wildcard symbol `*`. For example, the following command would add read permission for others to all files in the current directory:

`chmod o+r *`

Using numeric arguments with chmod

If you prefer, chmod can use a digit from 0 to 7 to represent the permissions for each class of people. Each digit is the sum of the permission values as shown in the following chart:

Value	Permission	Explanation
4	r	read
2	w	write
1	x	execute

For example, the command

chmod 751 file1

would change the permission for file1 to read, write and execute for the owner; read and execute for the group; and execute only for others. Values and the permissions they correspond to are shown below:

Value	Permission	Explanation
7	rwx	read, write and execute
6	rw-	read and write
5	r-x	read and execute
4	r--	read
3	-wx	write and execute
2	-w-	write
1	--x	execute
0	---	no access whatsoever

Changing directory permissions

To display the permissions for a directory, use the ls command with the -l and -d options, giving the directory name as the argument; e.g., for the directory project1

% ls -ld project1

drwx--x--x 2 Student users 512 Jul 3 11:26 .

To display the permissions for your current directory, use the -l and -d options on the ls command:

% ls -ld

drwx--x--x 11 Student users 512 Jul 8 14:54 .

Like files, permissions for directories are changed using the chmod command. Either class and action abbreviations (e.g., chmod g+x) or numeric arguments (e.g., chmod 644) may be used to change directory permissions.

Directory permissions have slightly different meanings than permissions for files. Read (r) permission is needed to list the contents of a directory with the ls command. Write (w) permission means that files can be added to or removed from the directory. Execute (x) permission is needed before you can change into a directory with the cd command or pass through a directory as part of a search path.

When you permit a file, you will also need to give execute permission to both your home directory and any subdirectories between your home directory and the file. When you do this, other users will not be able to list the contents of these directories, but they will be able to read or copy the file as long as they know the absolute pathname.

For example, user Student wants to give others permission to read and copy his file outline in subdirectory project1 in his home directory. To do this, he would type the following commands:

```
chmod o=x /home/Student  
chmod o=x /home/Student/project1  
chmod o=r /home/Student/project1/outline
```

Since execute permission does not allow others to see the contents of his directories, Student must tell his colleagues the absolute pathname of the file, which is **/home/Student/project1/outline**

19) Try using wildcards ("*" and possibly "?").

UNIX allows you to use wildcards (more formally known as *metacharacters*) to stand for one or more characters in a filename.

The two basic wildcard characters are ? and *. The wildcard ? Matches any one character. The wildcard * matches any grouping of zero or more characters.

Assume that your directory contains the following files:

Chap	bite
Chap6	it
Lit	site
big	snit
bin	test.new
bin.old	test.old
bit	

The ? wildcard

The command ls will list all the files. The command

ls ?it

Lit bit

lists only the files Lit and bit. The file snit was not listed because it has two characters before "it". The file it was not listed because it has no characters before "it".

The ? wildcard may be used more than once in a command. For example,

ls ?i?

Lit big bin bit

finds any files with "I" in the middle, one character before and one character after.

The * wildcard

The * wildcard is more general. It matches zero or any number of characters, except that it will not match a period that is the first character of a name.

ls *it

Lit bit it snit

Using this wildcard finds all the files with "it" as the last two characters of the name (although it would not have found a file called .bit).

We could use this wildcard to remove all files in the directory whose names begin with "test". The command to do this is

rm test*

Be careful when using the * wildcard, especially with the rm command. If you had mistyped this command by adding a space between test and *, Unix would look first for a file called test, remove it if found, and then proceed to remove all the files in the directory!

Matching a range of characters with []

The ? wildcard matches any one character. To restrict the matching to a particular character or range of characters, use square brackets [] to include a list. For example, to list files ending in "ite", and beginning with only "a", "b", "c", or "d" we would use the command:

ls [abcd]ite

This would list the file bite, but not the file site. Note that the sequence [] matches only one character. If we had a file called delite, the above command would not have matched it.

You can also specify a range of characters using []. For instance, [1-3] will match the digits 1, 2 and 3, while [A-Z] matches all capital letters.

ls [A-Z]it

will find any file ending in "it" and beginning with a capital letter (in this case, the file Lit).

Wildcards can also be combined with [] sequences. To list any file beginning with a capital letter, we would use:

ls [A-Z]*

Chap1 Chap6 Lit

Matching a string of characters with { }

The method described in the previous section matches a single character or range of characters. It is also possible to match a particular string by enclosing the string in { } (braces). For example, to list only the files ending in the string "old", we would use

ls *{old}

bin.old test.old

To list all files ending in either "old" or "new", use

ls *{old,new}

bin.old test.new test.old

20) Put a list of the files in your directory into a file called filelist. (then delete it!)

Using the CP command,

% cp ~Student/directory1* filelist

% rm filelist

21) Create a text file containing a small story, and then use the spell program to check the spelling of the words in the file.

To create a file with a short story:

% cat > story

The method described in the previous section matches a single character or range of characters. It is also possible to match a particular string by enclosing the string in {} (braces). For example, to list only the files ending in the string "old", we would use

^z

To perform Spell Check:

% spell story

22) Redirect the output of the spell program to the file called errors.

% spell story > errors

23) Set a file to be read-only with the chmod (from change mode) command.

Interpret the file permissions displayed by the ls -l command.

Consider file1 to be present,

To set the file to be read-only to all,

% chmod a+r file1

To see the permissions of the file, use the ls -l command. To see the permissions of the entire directory use the ls -ld command.

24) Delete one or more directories with the rmdir command. See what happens if the directory is not empty. Experiment (carefully!!) with the rm -r command to delete the directory and its content.

First let's go to home directory of user Student: cd ~Student

Let us create a directory /Student/Directory2

% mkdir /Student/Directory2

If the Directory 2 is not empty, then we get an error message:

Directory2: Directory not empty.

To remove the directory and all its files and contents:

%rm -r Directory2

25) Use the who command to see users logged into the system.

% who → lists all users currently logged into the system. if you want to list your files with the `ls` command, if you enter LS you will be told "command not found." The general format for output is:

name [state] line time [idle] [pid] [comment] [exit]

where:

name User's login name

state Capability of writing to the terminal

line Name of the line found in /dev

time Time since user's login

idle Time elapsed since the user's last activity

pid User's process id

comment

Comment line in **inittab (4)**

exit Exit status for dead processes

26) Compare two text files with the diff command.

The diff command is used to display two files and prints the lines that are different. It prints a message that uses ed-like notation (a for append, c for change, and d for delete) to describe how a set of lines has changed. This is followed by the lines themselves. The < character precedes lines from the first file and > precedes lines from the second file. The *diff* command displays the only line that differs between the two files.

Let's create an example to explain the output produced by *diff*. Look at the contents of three sample files:

```
test1  test2  test3
apples  apples  oranges
oranges  oranges  walnuts
walnuts  grapes  chestnuts
```

When you run *diff* on *test1* and *test2*, the following output is produced:

```
$ diff test1 test2
3c3
< walnuts
```

--
> grapes

27) Count the number of lines words and characters in a file with a wc command.

The "wc" command stands for "word count". It counts the number of characters, words, and lines that are contained in a text stream.

wc /etc/passwd

This command tells you the number of characters, words, and lines in the /etc/passwd file.

wc -l /etc/passwd

This command tells you the number of lines (only) in the /etc/passwd file.

wc -w MyStory

This command counts the number of words in the file named MyStory (which can be useful if you're paid by the word!).

28) Concatenate all files in a directory redirected to /dev/null and redirecting standard error to "error file".

To concatenate files in Unix use the cat command.

% cat *> /dev/null/errorfile

29) Delete all files in the current directory whose name ends in ".bak"

The command **rm** is used to delete files from a directory. It is used as:

[1%]rm filename

Where **filename** can be in the current directory

To remove all the files with the **.bak** extension:

[1%]rm *.bak

To remove all files with the .bak extension, without asking for confirmation
%rm -f *.bak

30) Count how many lines contain the word science in a word file science.txt.

First find the word using the grep command and then pie it using the wc command...

% grep science science.txt | wc -l

31) Select a text File and double Space the lines.

Use the SED command to double space the lines in a text file.

% sed filename

32) List all users from etc/passwd in the alphabetically sorted order.

To list all users on a Unix system, even the ones who are not logged in, look at the /etc/password file.

To see in detail, about all the users do: \$ cat /etc/passwd

to just see the Unix user names, use the command "\$ cat /etc/passwd | cut -d: -f1|sort

33) Use the "grep" command to search the file example1 for the occurrences of the string "water"

\$ grep water example1

34) Try to execute the example shell scripts given in this manual.

```
vi nv  
echo "Enter any no."  
read a  
echo "Number is $a"
```

```
fi
```

```
done
```

```
done
```

35) To print natural numbers from 1 to 10 using WHILE loop

```
echo "1-10 Natural No's are :"
```

```
i=1  
while [ $i -le 10 ]  
do  
echo $i  
i=`expr $i + 1`  
done
```

Output:

```
1-10 Natural No's are :
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

36) To Print Student Mark Sheet

```
echo "Enter 3 Students Names & Marks : "
read n1
read m1
read n2
read m2
read n3
read m3
echo "Name" " " "Marks"
echo $n1 " " $m1
echo $n2 " " $m2
echo $n3 " " $m3
```

Output :

Enter 3 Students Names & Marks :

satya

09

uday

99

satish

40

Name	Marks
------	-------

satya	09
-------	----

uday	99
------	----

satish	40
--------	----

37) To perform all Arithmetic operations on integers

```
echo "enter the first no."
read a
```

```
echo "enter the 2nd no."
read b
```

```
c=`expr $a + $b`
```

```
echo "sum : "$c
```

```
c=`expr $a - $b`
```

```
echo "diff : "$c
```

```
c=`expr $a \* $b`
```

```
echo "mul : "$c
```

```
c=`expr $a / $b`
```

```
echo "div : "$c
```

BCA/PGDCA SEM-1

```
c=`expr $a % $b`  
echo "modulus : "$c  
Output :  
enter the first no.  
36  
enter the 2nd no.  
34  
sum : 70  
diff : 2  
div : 1  
mul : 1224  
modulus : 2
```

Introduction

OpenOffice.org (OOo) has a component for mathematical equations. It is most commonly used as an equation editor for text documents, but it can also be used with other types of documents or stand-alone. When used inside Writer, the equation is treated as an object inside the text document.

Important note: The equation editor is for writing equations in symbolic form (as in equation 1). If you want to evaluate a numeric value, this is not the chapter you want. See the Calc guide.

$$\frac{df(x)}{dx} = \ln(x) + \tan^{-1}(x^2) \quad (1)$$

Getting started

To insert an equation, go to **Insert > Object > Formula**.

The equation editor opens at the bottom of the screen, and the floating *Selection* toolbox appears. You will also see a small box (with a gray border) in your document, where the formula will be displayed.

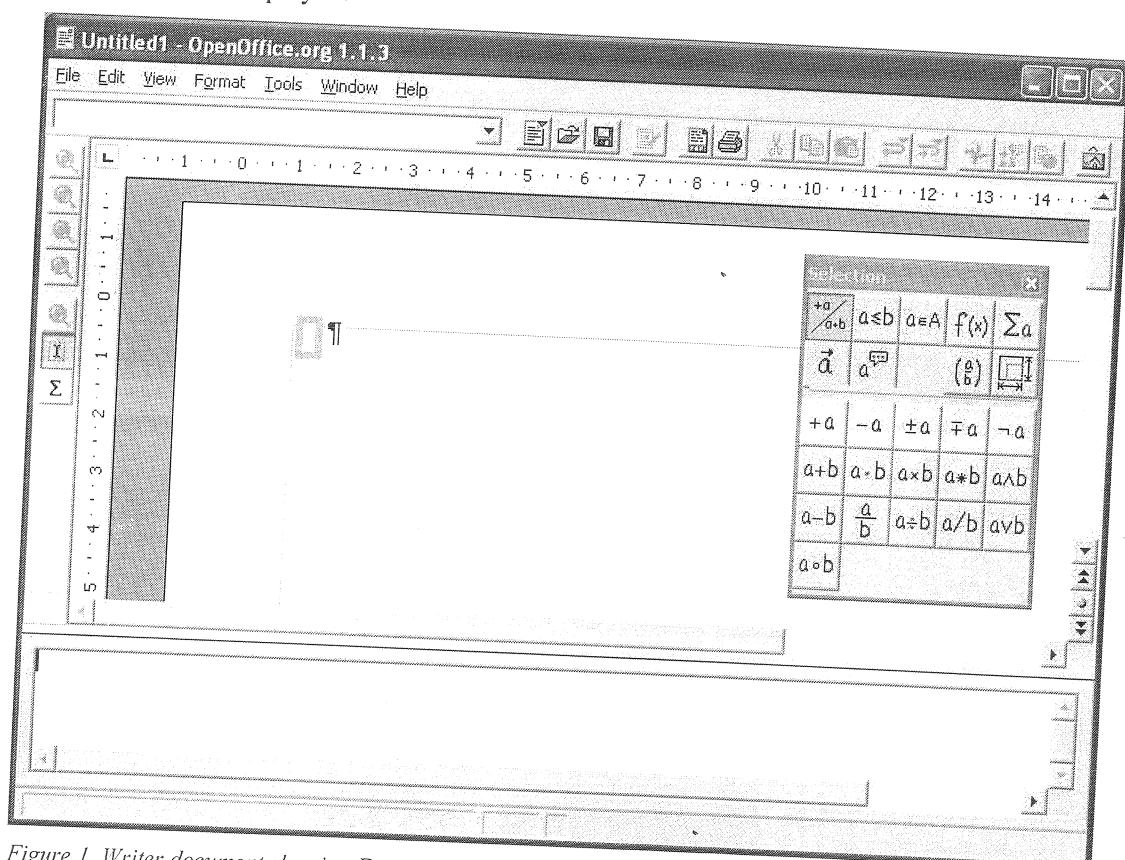


Figure 1. Writer document showing Equation Editor, Selection toolbar, and location of resulting equation.

The equation editor uses a markup language to represent formulas. For example, "%beta" creates the Greek character beta (β). This markup is designed to read similar to English whenever possible. For example, "a over b" produces a fraction:

$$\frac{a}{b}$$

Entering a Formula

There are three main ways of entering a formula:

- Type markup in the equation editor.
- Right-click on the equation editor and select the symbol from the context menu.
- Select a symbol from the *Selection* toolbox.

The context menu and the *Selection* toolbox insert the markup corresponding to a symbol. Incidentally, this provides a convenient way to learn the OOoMath markup. When you select a symbol from the Selection toolbox, it will show up like this in this equation editor:

<?> times <?>

And it will display on screen in Writer like this:

$\square \times \square$

When you are editing in the equation editor, you need to remove the <?> and replace it with the terms of the equation. For example, "5 times 4" produces 5×4 . Below is a short list of common equations and their corresponding markup.

Display	Command	Display	Command
$a=b$	<code>a = b</code>	$\gamma\Gamma$	<code>%gamma %GAMMA</code>
a^2	<code>a^2</code>	a_n	<code>a_n</code>
$\int f(x) dx$	<code>int f(x) dx</code>	$\sum a_n$	<code>sum a_n</code>
$a \leq b$	<code>a <= b</code>	∞	<code>infinity</code>
$\frac{a}{b}$	<code>a over b</code>	a	<code>stack { a # b }</code>
\sqrt{a}	<code>sqrt {a}</code>	\vec{u}	<code>vec u</code>
$x \times y$	<code>x times y</code>	$x \cdot y$	<code>x cdot y</code>

Complex Formulas

Of course, most people can figure out how to do something simple like \sqrt{a} . The problems appear when you try to write more complex equations. This section explores some general situations and suggests solutions.

Brackets are your friends

You may have heard your professor say this. It is true for science, and it is true for OOo. The equation editor knows nothing of order of operation. To make moderately complex formulas, you must use brackets. For example:

Display	Command
$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$	$x = \{ -b + \text{sqrt} \{ b^2 - 4ac \} \} \text{ over } \{ 2a \}$

Tip: Squiggly brackets can be used to collect terms without the bracket appearing in the equation.

Sums and integration

The “sum” and “int” commands can optionally take in “from” and “to” parameters. These are used in a way that is meant to resemble how the equation is read in English. These parameters can be used singly or together. For example:

Display	Command
$\sum_{n=1}^{\infty} a_n + \frac{1}{n^2}$	sum from { n = 1 } to infinity { a_n + 1 over n^2 }
$\sum_{a \in A} a^3$	sum from { i in A } { a^3 }
$\int_a^b x^2 + \frac{1}{x} dx$	int from a to b { x^2 + 1 over x dx }
$\int_{\alpha} r(\theta) e^{i\theta} d\theta$	int from %alpha { r(%theta)e^{i%theta} d %theta }

Tip: Though they look the same, the “sum” command is more flexible than “%SIGMA”.

Tip: Use “infinity” to produce the ∞ symbol.

Matrices

Matrices are done through the matrix command. The basic syntax is:

Display	Command
$\begin{matrix} a & b \\ c & d \end{matrix}$	matrix { a # b ## c # d }

A single “#” symbol is used to separate entries within a given row. Two “#” symbols are used to separate different rows.

One of the first problems people have with matrices is working with brackets. Regular brackets have a fixed size, which doesn't fit well with matrices (see the table below). OOoMath provides “scalable brackets”. These brackets adjust in size (“scale”) to fit the size of their contents. To obtain scalable brackets, use the `left` (and `right`) commands.

Display	Command	Type
$\det \begin{pmatrix} a & b \\ c & d \end{pmatrix}$	<code>det (matrix { a # b ## c # d })</code>	normal
$\det \left(\begin{matrix} a & b \\ c & d \end{matrix} \right)$	<code>det left(matrix { a # b ## c # d } right)</code>	scalable

Tip: Use `left[` and `right]` to obtain square brackets.

Derivatives

To write a derivative, or a partial derivative, use the “over” command. That is, treat it as if it were a fraction. For higher-order derivatives, use the `^` symbol, like an exponent.

Display	Command
$\frac{df(t)}{dt} = \frac{\partial f}{\partial x} \frac{dx}{dt} + \frac{\partial f}{\partial y} \frac{dy}{dt}$	$\{df(t)\} \text{ over } \{dt\} = \{\text{partial } f\} \text{ over } \{\text{partial } x\} \{dx\} \text{ over } \{dt\}$ $+ \{\text{partial } f\} \text{ over } \{\text{partial } y\} \{dy\} \text{ over } \{dt\}$

Math commands - Reference

Unary / binary operators

Table 1. Commands, unary & binary

Operation	Command	Display
+sign	+1	+1
-sign	-1	-1
+/- sign	+1	± 1
-/+ sign	neg 1	∓ 1
Boolean not	neg a	$\neg a$
Addition +	a + b	$a+b$
Multiplication dot	a cdot b	$a \cdot b$
Multiplication (X)	a times b	$a \times b$
Multiplication (*)	a * b	$a * b$
Boolean and	a and b	$a \wedge b$
Subtraction (-)	a - b	$a - b$
Division (fraction)	a over b	$\frac{a}{b}$
Division (operand)	a div b	$a \div b$
Division (slash)	a / b	a/b
Boolean or	a or b	$a \vee b$
Concatenate	a circ b	$a \circ b$

Relational operators

Table 2. Commands, relations

Operation	Command	Display
Is equal	<code>a = b</code>	$a = b$
Is not equal	<code>a \neq b</code>	$a \neq b$
Approximately	<code>a approx 2</code>	$a \approx 2$
Divides	<code>a divides b</code>	$a b$
Does not divide	<code>a ndivides b</code>	$a \nmid b$
Less than	<code>a < 2</code>	$a < 2$
Greater than	<code>a > 2</code>	$a > 2$
Similar to or equal	<code>a simeq b</code>	$a \simeq b$
Parallel	<code>a parallel b</code>	$a \parallel b$
Orthogonal to	<code>a ortho b</code>	$a \perp b$
Less than or equal to	<code>a lessanl b</code>	$a \leqslant b$
Greater than or equal to	<code>a geslant b</code>	$a \geqslant b$
Similar to	<code>a sim b</code>	$a \sim b$
Congruent	<code>a equiv b</code>	$a \equiv b$
Less than or equal to	<code>a <= b</code>	$a \leq b$
Greater than or equal to	<code>a >= b</code>	$a \geq b$
Proportional	<code>a prop b</code>	$a \propto b$
Toward	<code>a toward b</code>	$a \rightarrow b$
Arrow left	<code>a larrow b</code>	$a \leftarrow b$
Double arrow left and right	<code>a dlarrow b</code>	$a \Leftrightarrow b$
Arrow right	<code>a drarrow b</code>	$a \Rightarrow b$

Base/Data Types

- 1 Variable Types for Embedded Base Database
 - 1.1 Numeric Types ,1.2 Alphanumeric Types, 1.3 Binary Types, 1.4 Date time,1.5 Other Variable types

Variable Types for Embedded Base Database

Numeric Types

Name	Data type	No. of Bytes	Signed	Range
BOOLEAN	boolean	1	no	0 or 1
TINYINT	integer	1	no	0 to 255
SMALLINT	integer	2	yes	-2^{15} to $2^{15}-1$
INTEGER	integer	4	yes	-2^{31} to $2^{31}-1$
BIGINT	integer	8	yes	-2^{63} to $2^{63}-1$
NUMERIC	number	no limit	yes	(Max Scale, Max Precision) Max Scale = unlimited Max Precision = $e^{(+/-)231}$
DECIMAL	decimal	no limit	yes	(Max Scale, Max Precision) Max Scale = unlimited Max Precision = $e^{(+/-)231}$
REAL	real	4	yes	2^{-1074} to $(2 \cdot 2^{-52}) \cdot 2^{1023}$
FLOAT	float	4	yes	2^{-1074} to $(2 \cdot 2^{-52}) \cdot 2^{1023}$
DOUBLE	double	4	yes	2^{-1074} to $(2 \cdot 2^{-52}) \cdot 2^{1023}$

2^{-1074} to $(2 \cdot 2^{-52}) \cdot 2^{1023}$ could also be stated as $5e^{-324}$ to $1.7976931348623157e^{+308}$

Alphanumeric Types

Name	Data type	Max length	Description
LONGVARCHAR	text	2GB for 32 bit OS	Stores up to the max number of characters indicated by user. It accepts any UTF 8 character.
CHAR	text(fix)	2GB for 32 bit OS	Stores exactly the number of characters specified by user. Pads with trailing spaces for shorter strings. Accepts any UTF 8 character.

VARCHAR	text	2GB for 32 bit OS	Stores up to the specified number of characters. No padding (Same as long var char).
VARCHAR_IGNORECASE	text	2GB for 32 bit OS	Stores up to the specified number of characters. Comparisons are not case sensitive but stores capitals as you type them.

Binary Types

Name	Data type	Max length	Description
LONGVARBINARY	image	2GB for 32 bit OS	Stores any array of bytes (images, sounds, etc). No validation required.
BINARY	binary (fix)	2GB for 32 bit OS	Stores any array of bytes. No validation required.
VARBINARY	binary	2GB for 32 bit OS	Stores any array of bytes. No validation required.

Date time

Name	Description	Format
Date	Stores month, day and year information	1/1/99 to 1/1/9999
Time	Stores hour, minute and second info	Seconds since 1/1/1970
Timestamp	Stores date and time information	

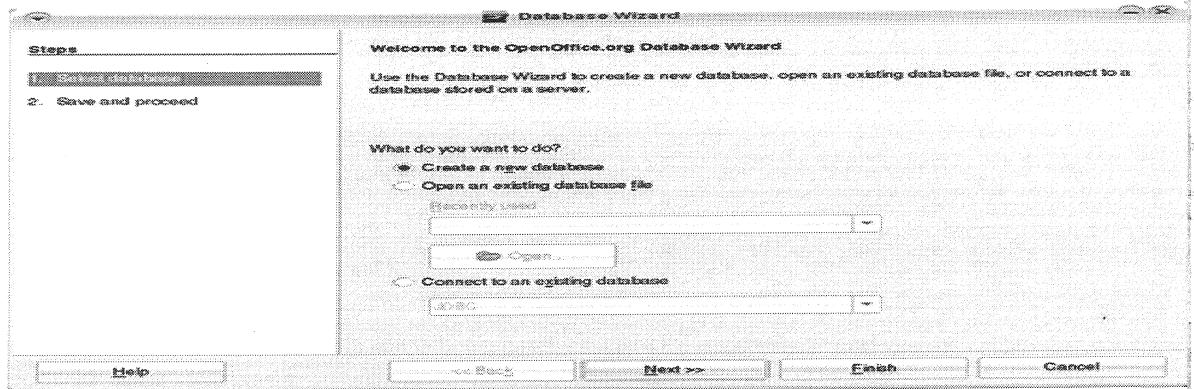
Other Variable types

Name	Description
Other	Stores serialized Java objects. User application must supply serialization routines.
Object	Same

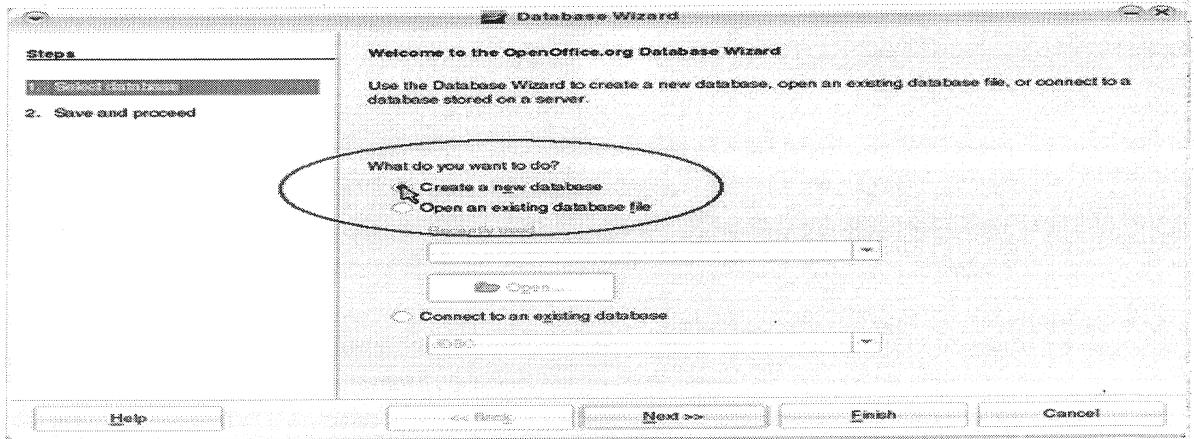
- Create a new database
- Create tables

* Create a new database ↗

1. Start OpenOffice.org Base. Your screen should look like this:



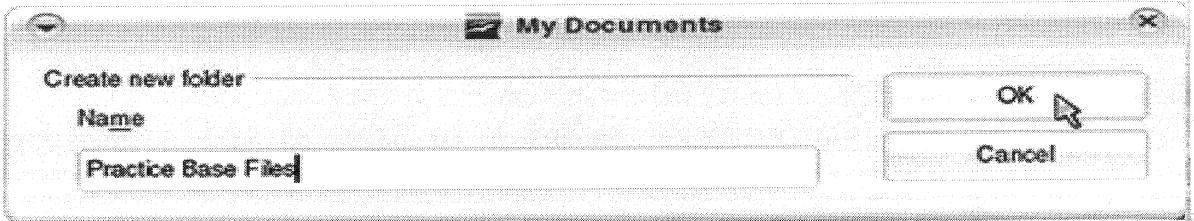
2. In the Database Wizard window, click the **Create a new database** radio button.



Then click the **Finish** button.

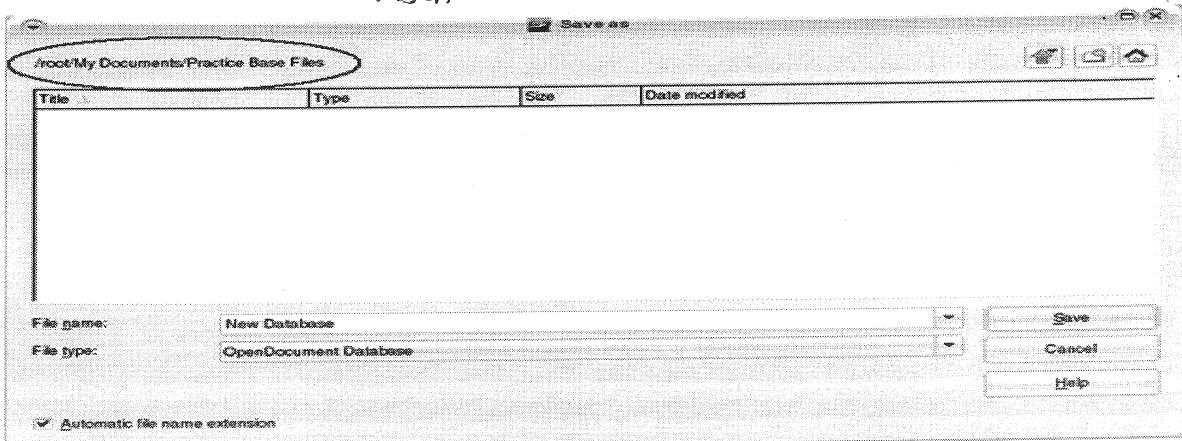
3. When the **Save as** window appears, create a new folder in the **My Documents** folder called **Practice Base Files**.

(BcA)

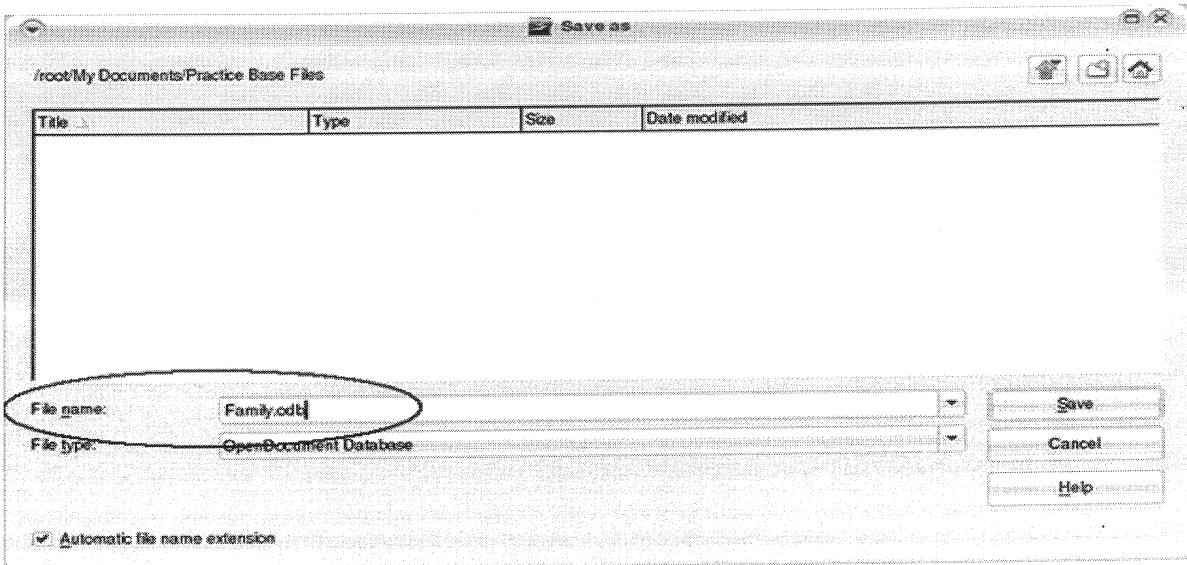


Dose Drive
TIP: To create a new folder, make sure the **My Documents** folder appears as the Save In folder. Then click the icon.

4. Double-click the Practice Base Files folder. It should appear as the Save In folder.
o BCA



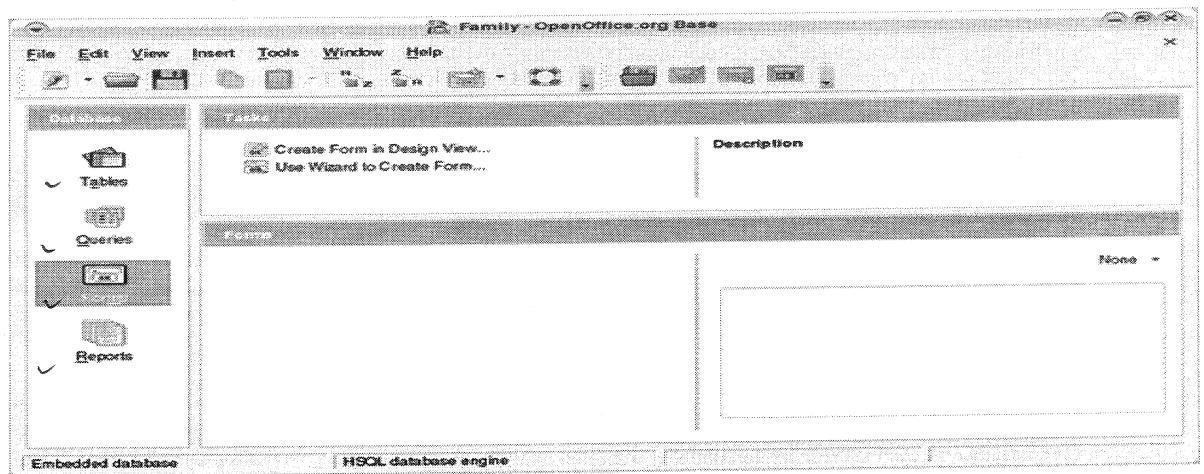
5. In the File name box, type: Family.odb o Student



• odb

TIP: Base will automatically add a file extension for you when you leave the Automatic file name extension box checked.

6. Click the button. The window for the Family database should open:

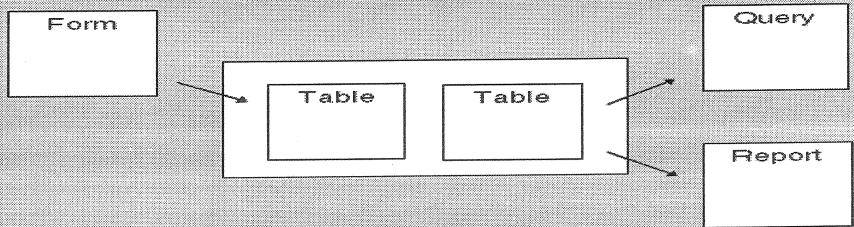


* Identify database elements or Database Objects or Database Components :-

Elements of databases

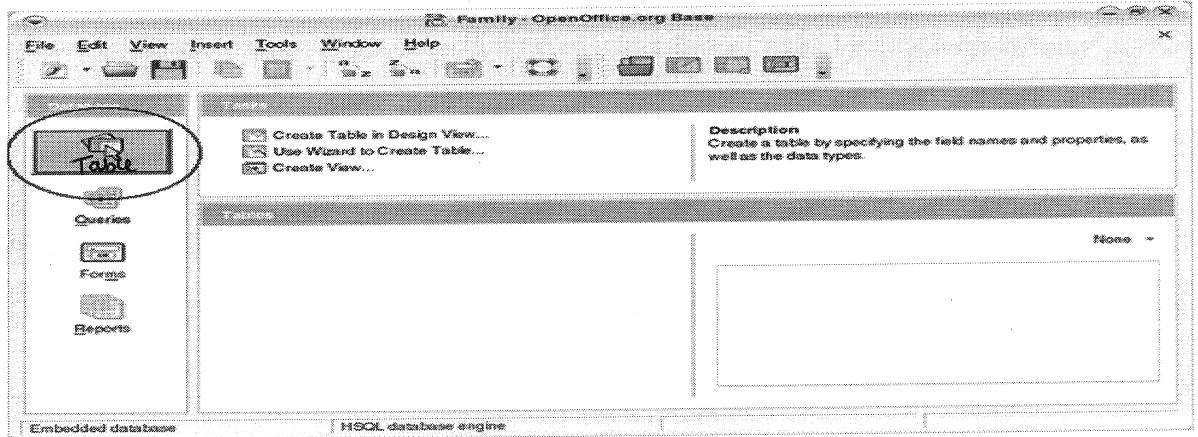
Def A database stores information in an organized way, and makes it easy to get information in and out.

1. Tables store data within the database.
2. Forms make it easy to put data into tables.
3. Queries pull out specific data.
4. Reports put data in an easily-read format.

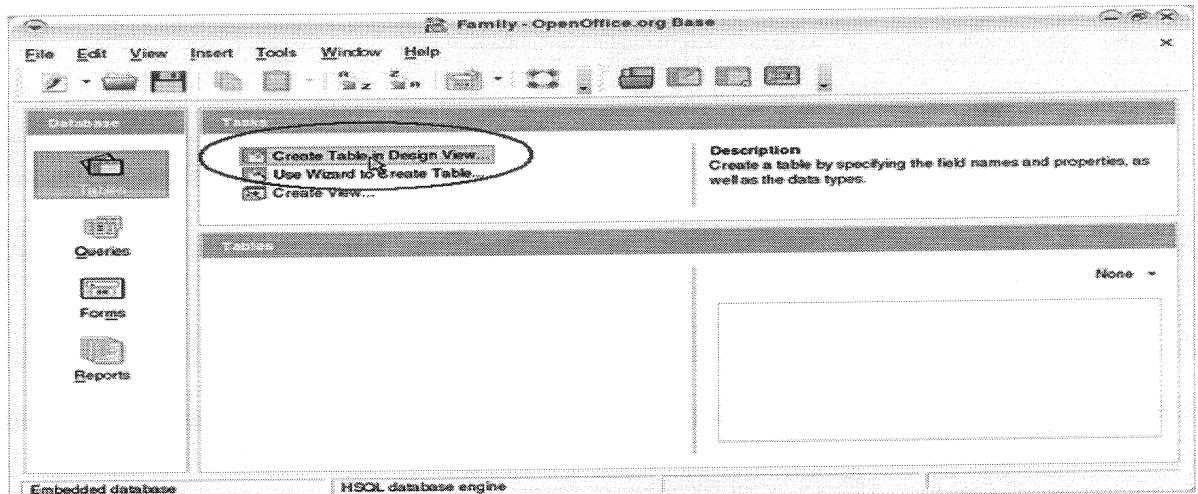


1 * Create tables

1. In the Database list, click Tables.



2. Click Create Table in Design View.



A blank table should open with the columns **Field Name**, **Field Type**, and **Description**.

The screenshot shows the 'Table Design' window in OpenOffice.org Base. The menu bar at the top includes File, Edit, View, Tools, Window, and Help. The title bar reads 'Pentury - OpenOffice.org Base - Table Design'. The main area displays a table with three columns: 'Field Name', 'Field Type', and 'Description'. The 'Field Properties' dialog box is open at the bottom, showing tabs for 'General', 'Data', 'Validation', and 'Format'. The 'General' tab is selected.

Name fields in Design View

1. Click in the box under the **Field Name** column header:

2. Type: **First Name**
 3. Press the **ENTER** key on your keyboard.
 4. The Design View of the table should look like this:

The field type for First Name can stay Text [VARCHAR].

4. Click in the box under where you just typed **First Name**.

Field Name	Field Type	Description
FirstName	Text [VARCHAR]	

5. Type: Last Name It should look like this:

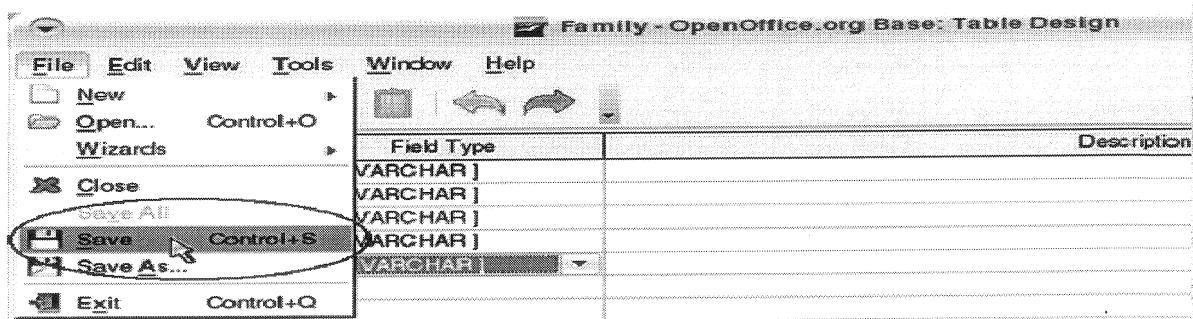
Field Name	Field Type	Description
First Name	Text [VARCHAR]	
Last Name	Text [VARCHAR]	

5. Press the **ENTER** key on your keyboard.
6. In the same way, create the following fields:
 - City
 - Zip
 - Phone Number

The table should now look like this:

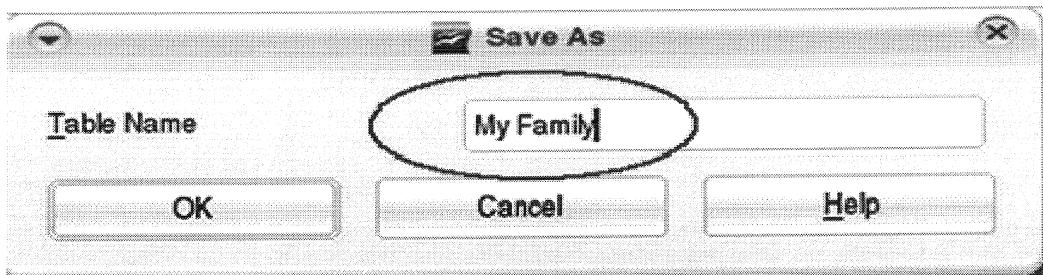
Field Name	Field Type	Description
First Name	Text [VARCHAR]	
Last Name	Text [VARCHAR]	
City	Text [VARCHAR]	
Zip	Text [VARCHAR]	
Phone Number	Text [VARCHAR]	

7. On the Menu Bar, click **File**, then **Save**.



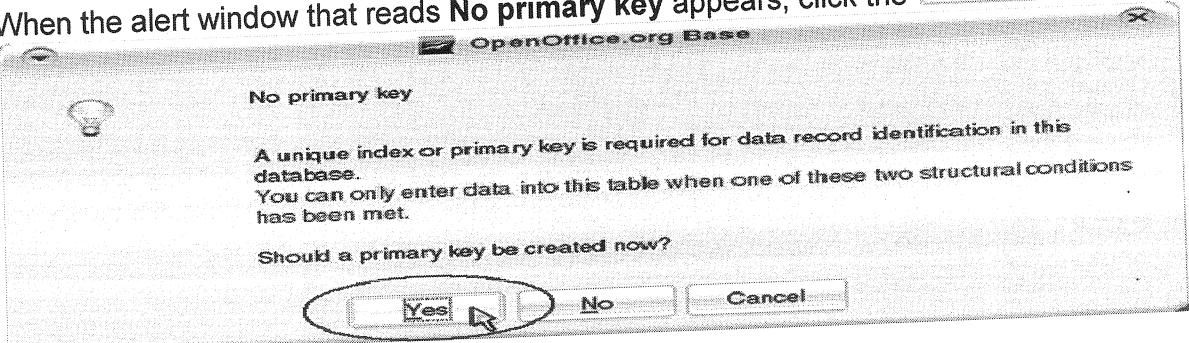
8. When the **Save As** window appears, type:

My Family in the Table Name box.



9. Click the **OK** button.

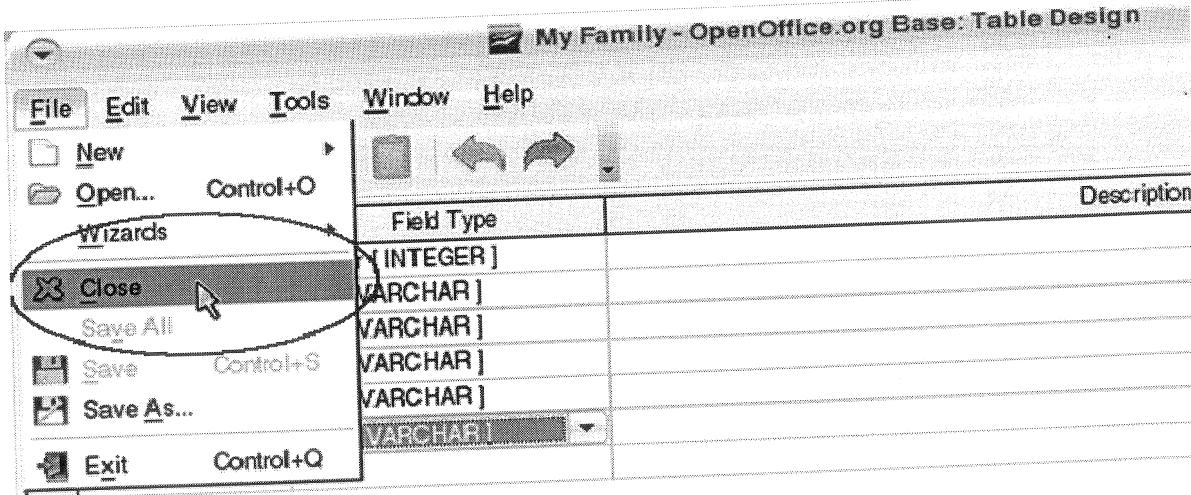
10. When the alert window that reads **No primary key** appears, click the **Yes** button.



Base will insert an ID field—the Key field—in the table:

Base will insert an ID field—the Key field—in the table.			
	Field Name	Field Type	Description
▼	ID	Integer [INTEGER]	
	First Name	Text [VARCHAR]	
	Last Name	Text [VARCHAR]	
	City	Text [VARCHAR]	
➤	Zip	Text [VARCHAR]	
	Phone Number	Text [VARCHAR]	

11. On the Menu Bar, click **File**, then **Close**.



* What is the key field?

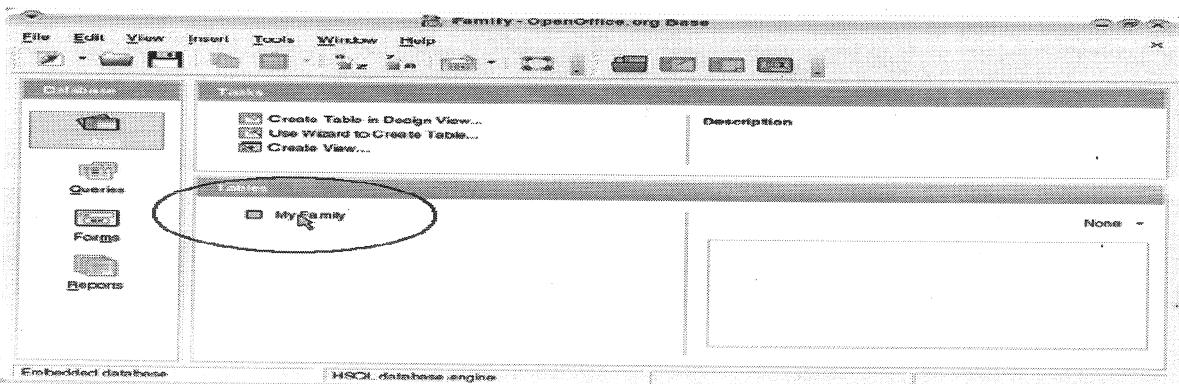
When the alert window popped up, and you clicked the  button, Base added the ID field to the table.

- ✓ The ID field is now the table's primary key, or key field. That means it can't contain any duplicates.
 - ✓ Every table should have a key field.
 - ✓ For example, if a hospital keeps a database, each patient can have a unique ID number in the key field.
That way, if it has more than one patient named John Baker, it can easily distinguish John Baker, ID #326 in for a checkup, from John Baker, ID #298 who needs his gall bladder removed.

field. That way, if it has more than one patient named John Baker, it can easily distinguish John Baker, ID #326 in for a checkup, from John Baker, ID #298 who needs his gall bladder removed.

* Create records ↗

1. Double-click the table **My Family** in the Tables list.



2. Click in the box under the ID column header.

ID	First Name	Last Name	City	Zip	Phone Number	
1						

3. Type: 1

4. Click in the box under the First Name column header.

ID	First Name	Last Name	City	Zip	Phone Number	
1						

5. Type: Elvis

6. Press the TAB key on your keyboard. The table should now look like this:

ID	First Name	Last Name	City	Zip	Phone Number	
1	Elvis					

7. Type: Presley then press TAB key.

8. Type: Baltimore then press TAB.

9. Type: 21212 then press TAB.

10. Type: 4105551212 then press TAB.

The table should now look like this:

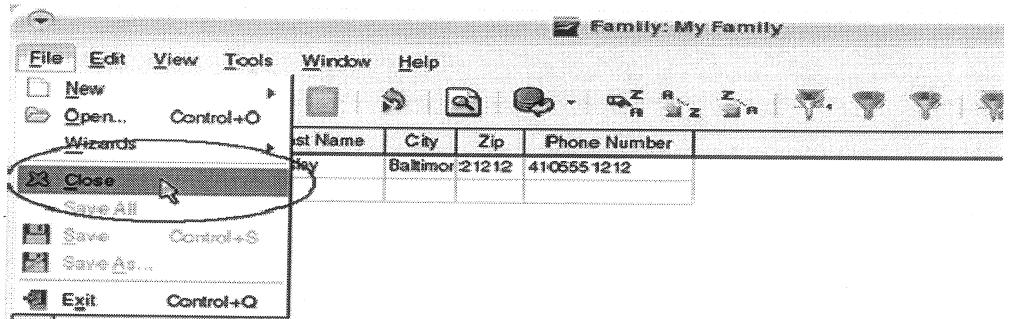
	ID	First Name	Last Name	City	Zip	Phone Number	
X	1	Elvis	Presley	Baltimore	21212	4106551212	

TIP: Notice how the cursor in the row selector has moved down to the second (new) record.

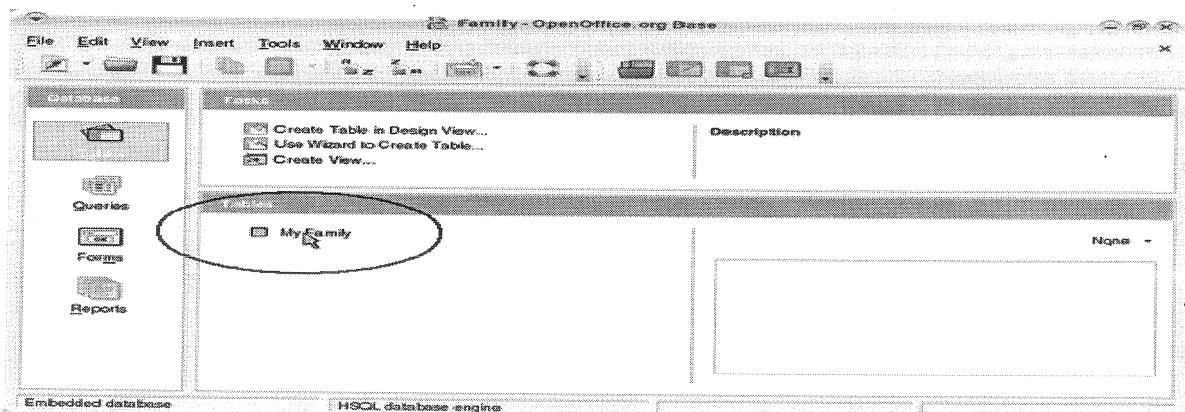
When you move on to a new record, Base automatically saves the previous record.

* Add new fields ↗

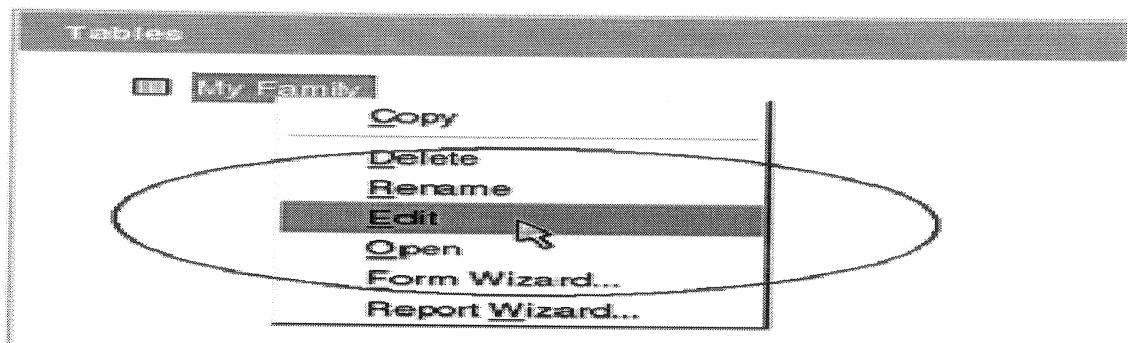
1. On the Menu Bar, click **File**, then **Close**.



2. Right-click the **My Family** table.



When the menu appears, click **Edit**.



3. The table should appear in Design View:

My Family - OpenOffice.org Base: Table Design

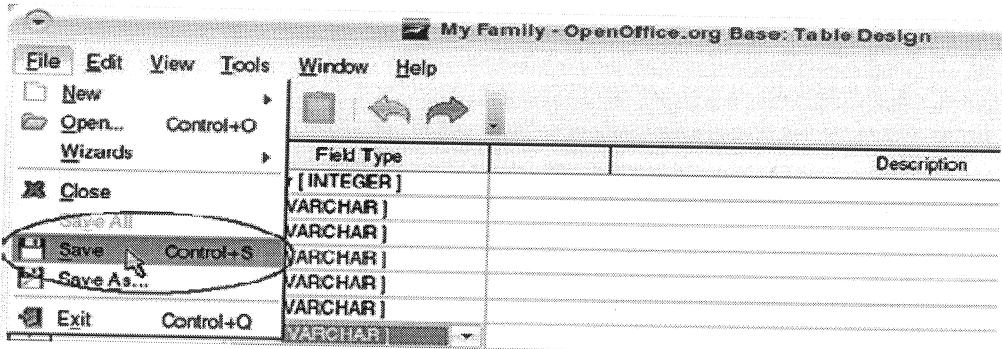
Field Name	Field Type	Description
ID	Integer [INTEGER]	
First Name	Text [VARCHAR]	
Last Name	Text [VARCHAR]	
City	Text [VARCHAR]	
Zip	Text [VARCHAR]	
Phone Number	Text [VARCHAR]	

Field Properties

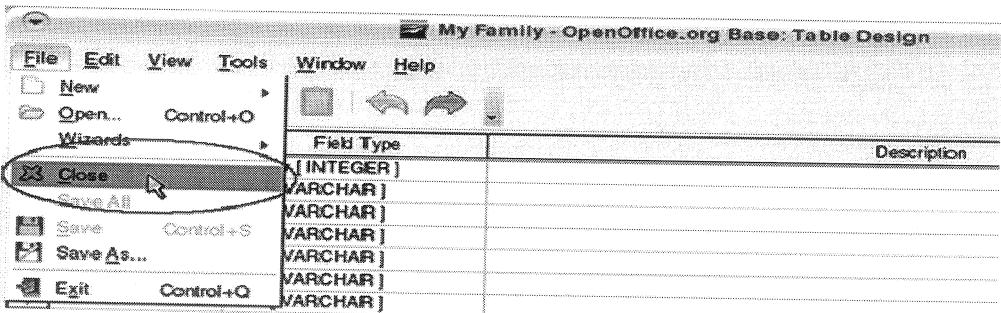
AutoValue: None
Length: 10
Default value:
Format example:

4. Click the box under Phone Number and type: State
 ↓
 Press the **ENTER** key.

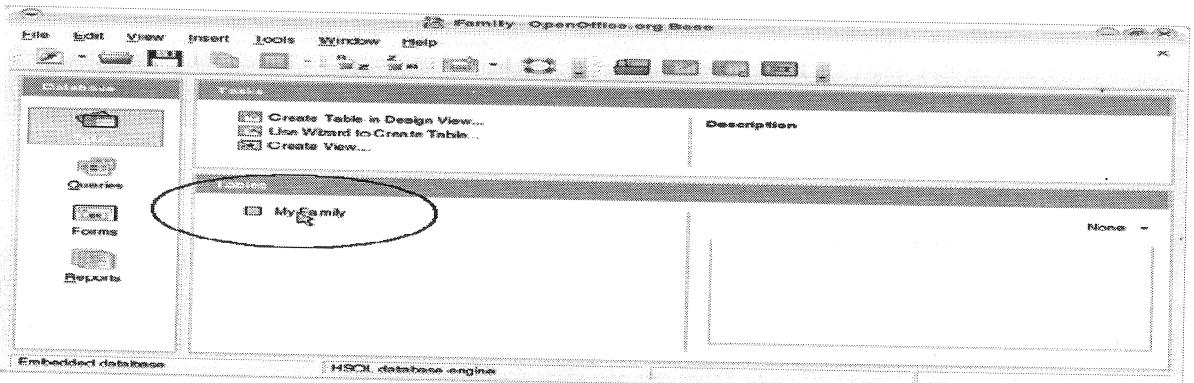
5. On the Menu Bar, click File, then Save.



6. On the Menu Bar, click File, then Close.



7. Double-click the **My Family** table.



8. Click inside the new State field for the first record.

	ID	First Name	Last Name	City	Zip	Phone Number	State
>	1	Elvis	Presley	Baltimore	21212	4105551212	I
○							

9. Type: MD

10. Press TAB until the cursor moves down to a new record.

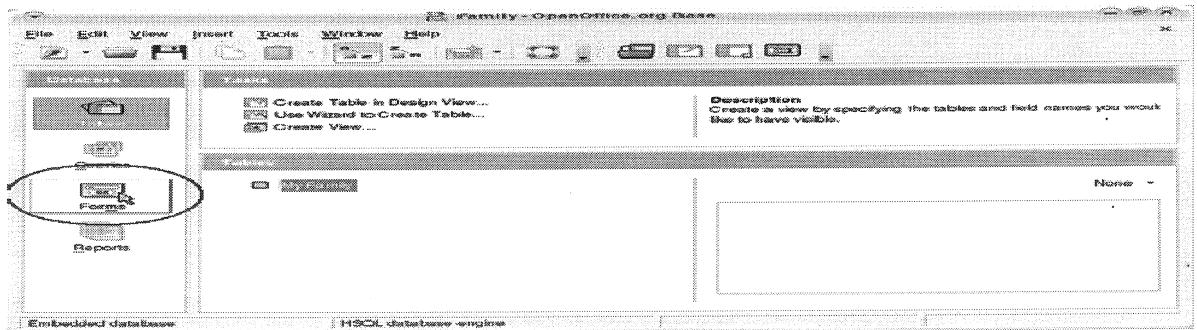
Record number 1 is saved and complete.

	ID	First Name	Last Name	City	Zip	Phone Number	State
>	1	Elvis	Presley	Baltimore	21212	4105551212	MD
○							

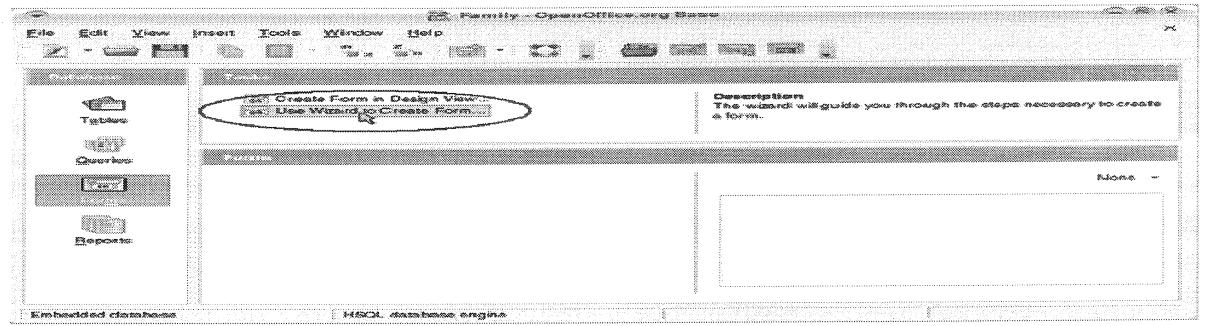
11. On the Menu Bar, click File, then Close.

2.* Create forms

1. In the Database list, click Forms.



2. Click Use Wizard to Create Form.



3. When the Form Wizard window appears, click the  button.

Form Wizard

Steps

1. Field selection
2. Set up a subform
3. Add subform fields
4. Get joined fields
5. Arrange controls
6. Set data entry
7. Apply styles
8. Set name

Select the fields of your form

Tables or queries
Table: My Family

Available fields

- ID
- First Name
- Last Name
- City
- Zip
- Phone Number
- State

Fields in the form

Binary fields are always listed and selectable from the left list. If possible, they are interpreted as images.

< Back Next > Finish Cancel

All the table fields should be added to the form:

Available fields

Fields in the form

- ID
- First Name
- Last Name
- City
- Zip
- Phone Number
- State

< Back Next > Finish Cancel

4. Click the **Next >** button.

5. When the next screen appears, leave **Add Subform** unchecked, then click the **Next >** button.

Form Wizard

Steps

1. Field selection
2. Set up a subform
3. Add subform fields
4. Get joined fields
5. Arrange controls
6. Set data entry
7. Apply styles
8. Set name

Decide if you want to set up a subform

Add Subform

If you select this option, the subform will be inserted into the existing instance. Which relation do you want to add?

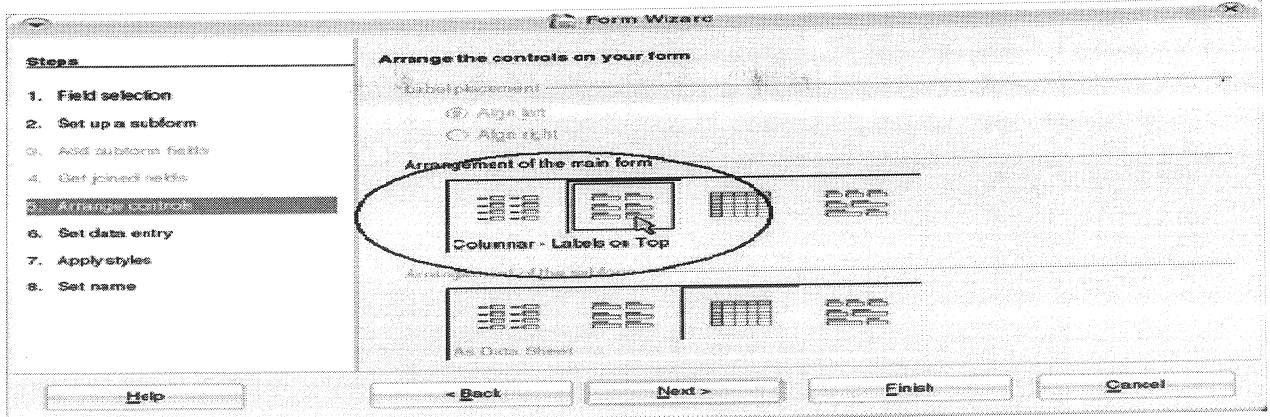
Subform Related from data and junctions of fields

A subform is a form that is inserted in another form. Use subforms to show data from tables or queries with a one-to-many relationship.

< Back Next > Finish Cancel

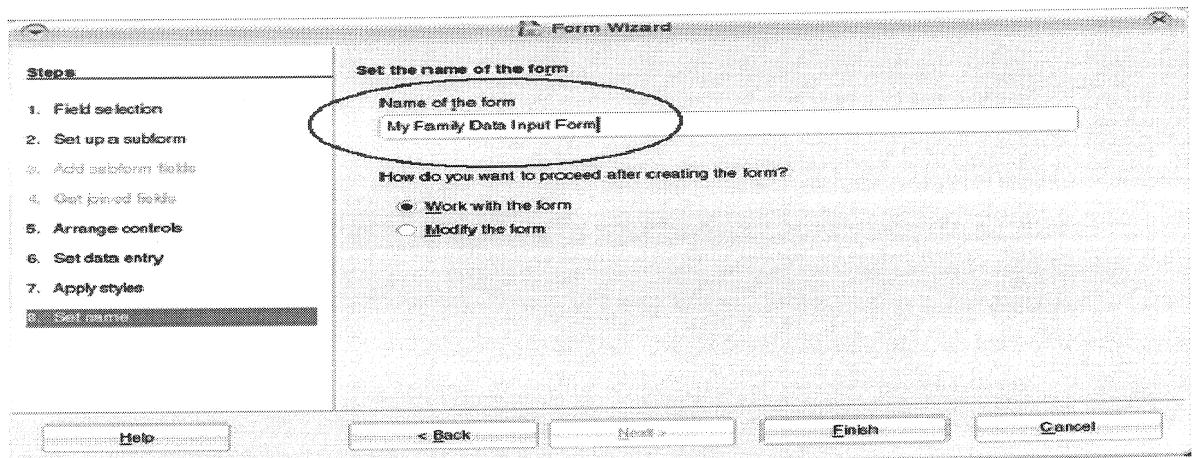
(If required)

6. When the next screen appears, make sure **Columnar - Labels on Top** is selected.

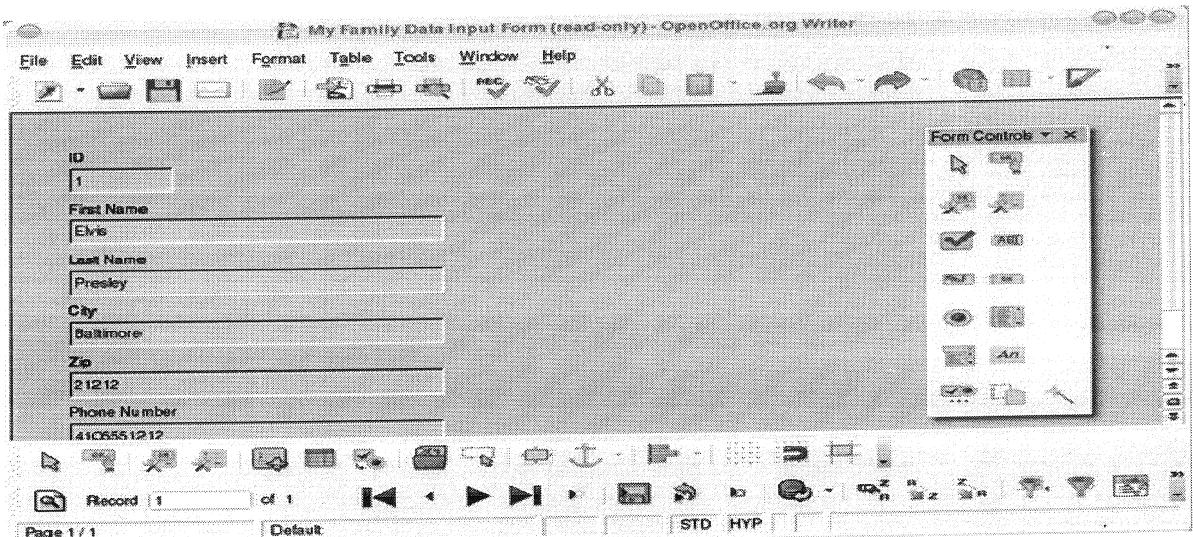


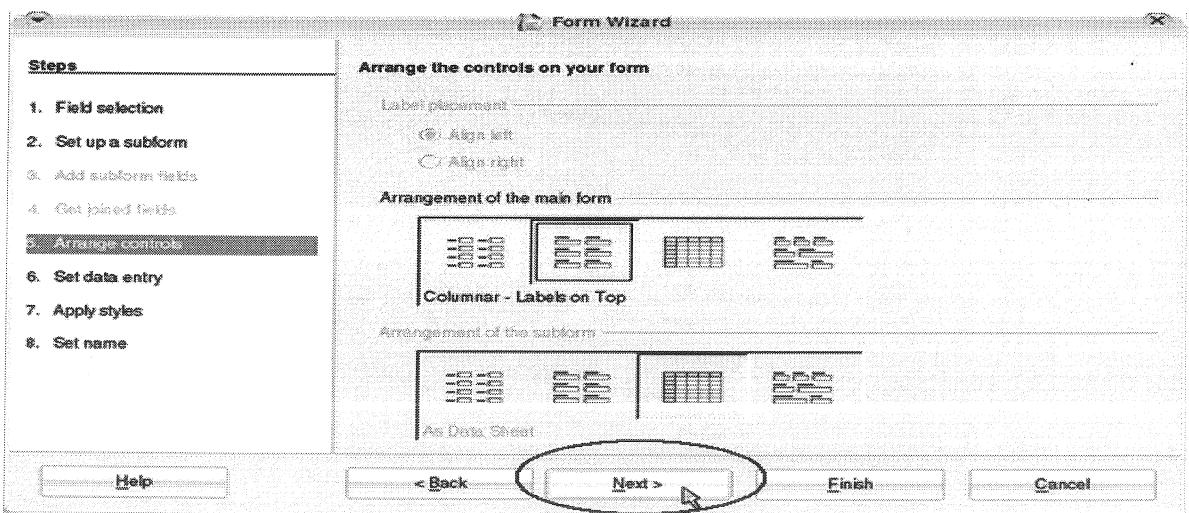
Then click the **Next >** button three times.

- When the 'Set the name of the form screen' appears, type: **My Family Data Input Form** in the box.



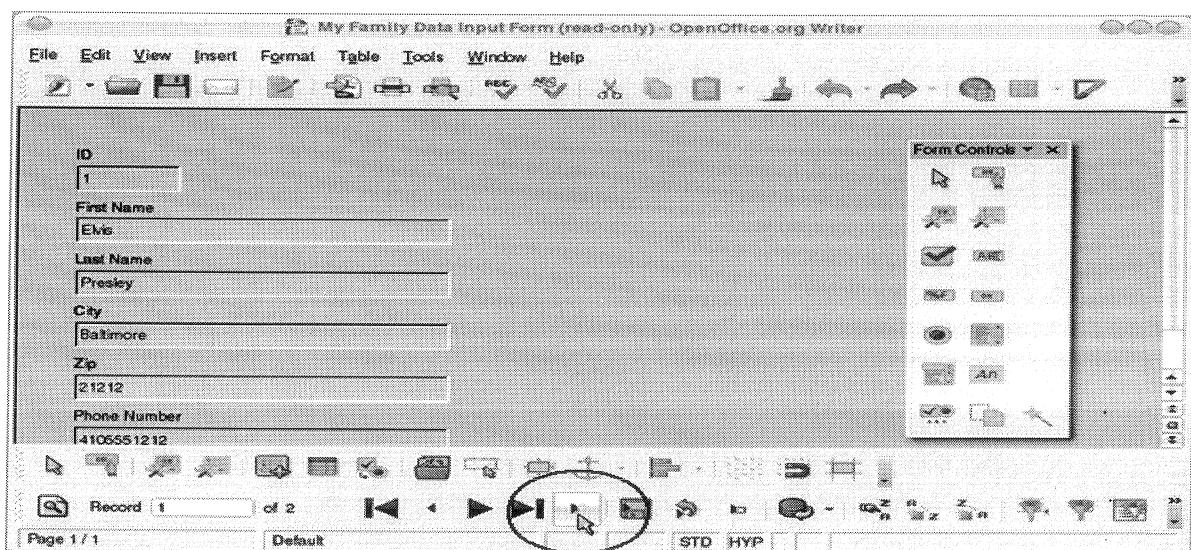
- Click the **Finish** button. The form should open and look like this:





Add a new record

1. In the form window, click the button.



A blank record should appear:



2. Click in the ID box, then type:

ID 2	
First Name	
Last Name	
City	
Zip	
Phone Number	

3. Press TAB to advance to the First Name box.

ID 2	
First Name	I
Last Name	
City	
Zip	
Phone Number	

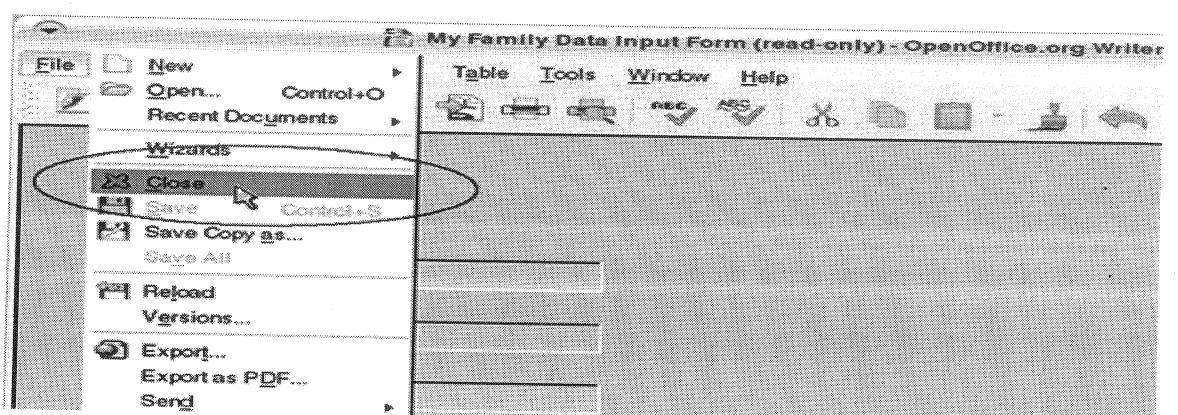
4. Type: Bo then press the TAB key.
5. Type: Diddley then press the TAB key.
6. Type: Richmond then press the TAB key.
7. Type: 23220 then press the TAB key.
8. Type: 8005557890 then press the TAB key.
9. Type: VA The form should now look like this:

2	
First Name	Bo
Last Name	Diddley
City	Richmond
ZIP	23220
Phone Number	8005557890
State	VA

10. Press the TAB key again. The form should progress to a new, blank record:

The old record has been saved.

- On the Menu Bar, click **File**, then **Close** to return to the database window.



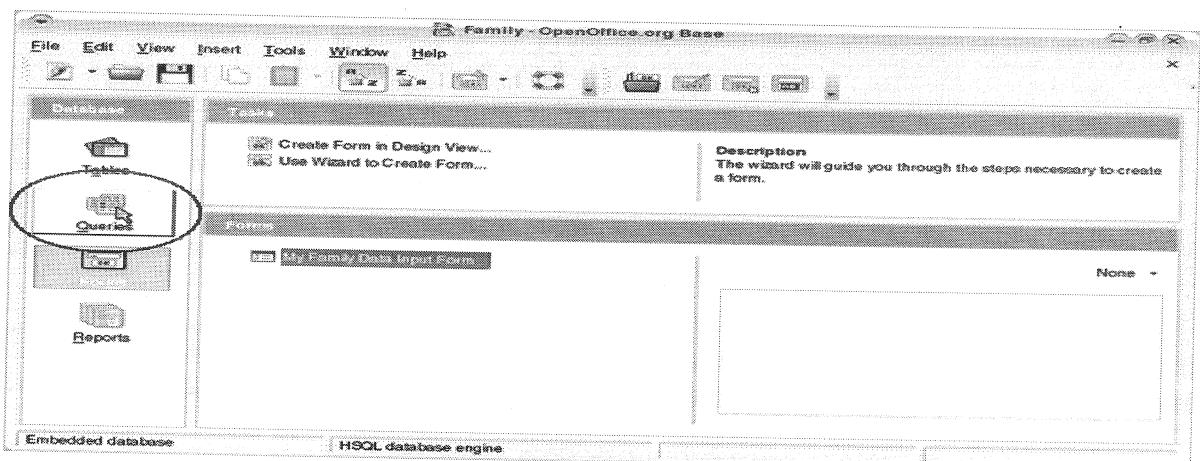
3. Create queries

* What's a query?

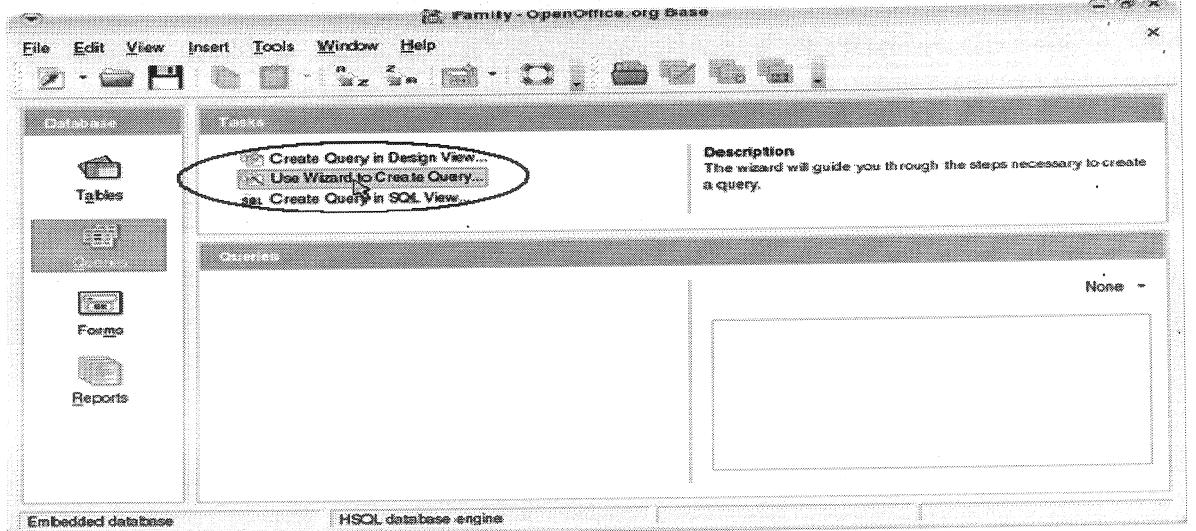
A query is a way to get specific information from the database.

Essentially, it's a question. You use queries to ask the database things like, "Who are my customers in Montana?", or, "How many pipe fittings have I sold this month?"

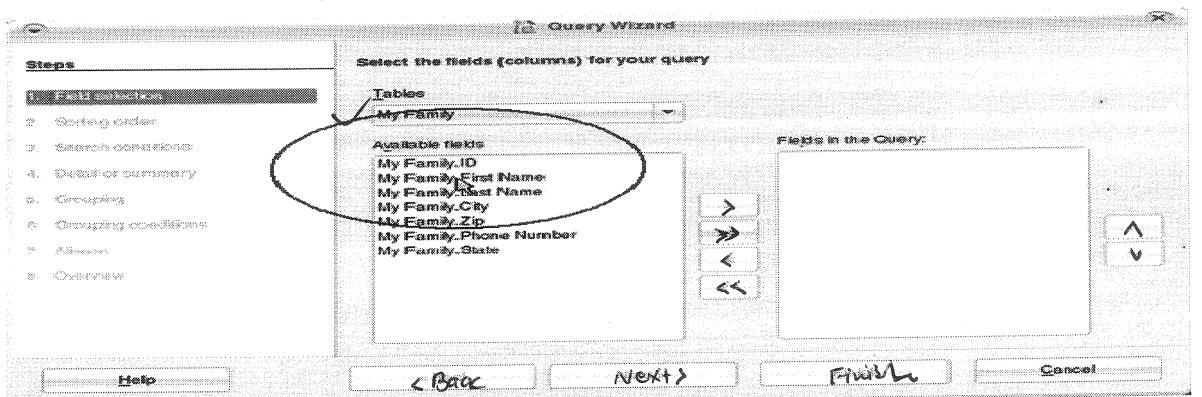
- In the **Database** list, click **Queries**.



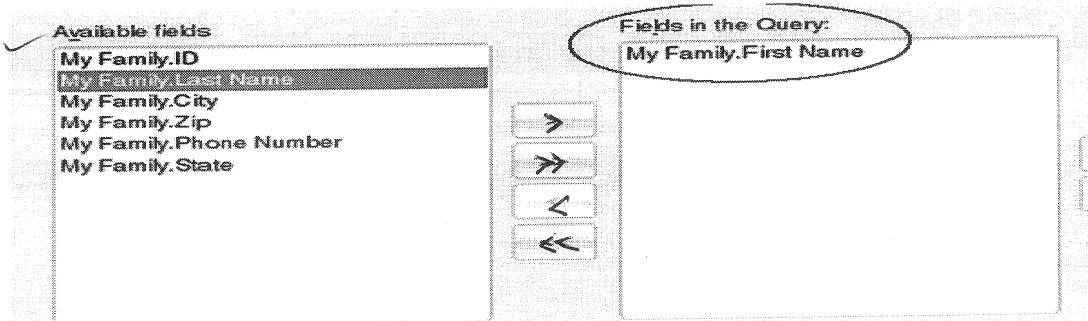
- Click **Use Wizard to Create Query**.



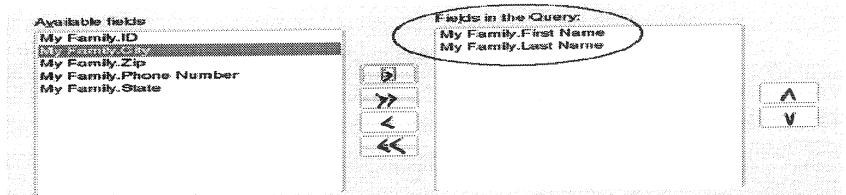
3. When the Query Wizard opens, double-click My Family.First Name in the Available Fields list. (Tables)



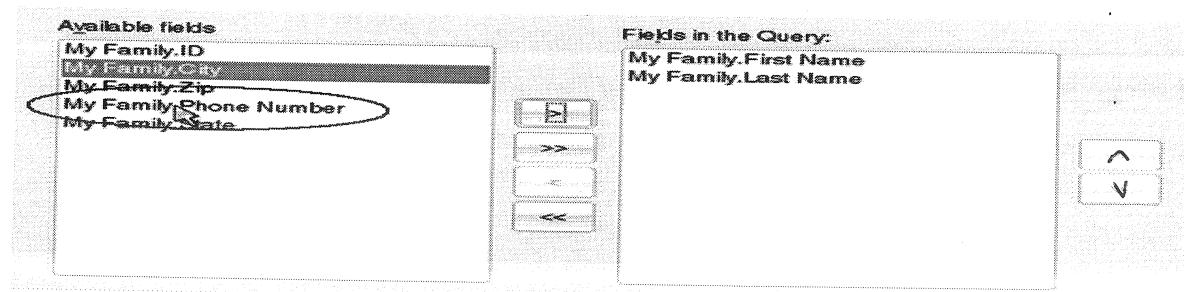
My Family.First Name should appear in the Fields in the Query column:



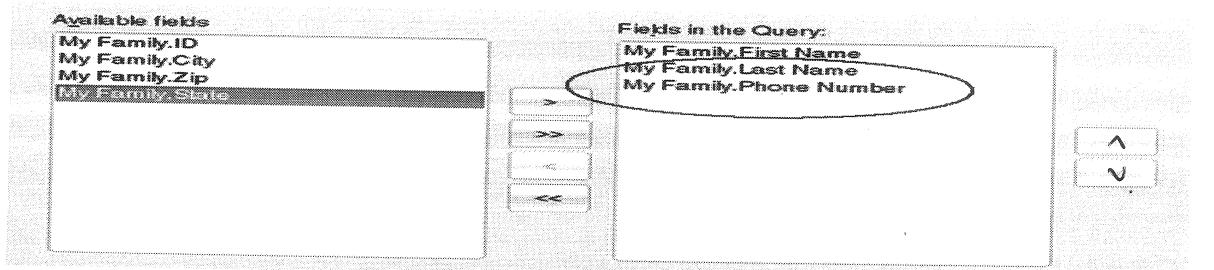
4. Click the button. This should add the Last Name field to the Fields in the Query list:



5. Double-click My Family.Phone Number.



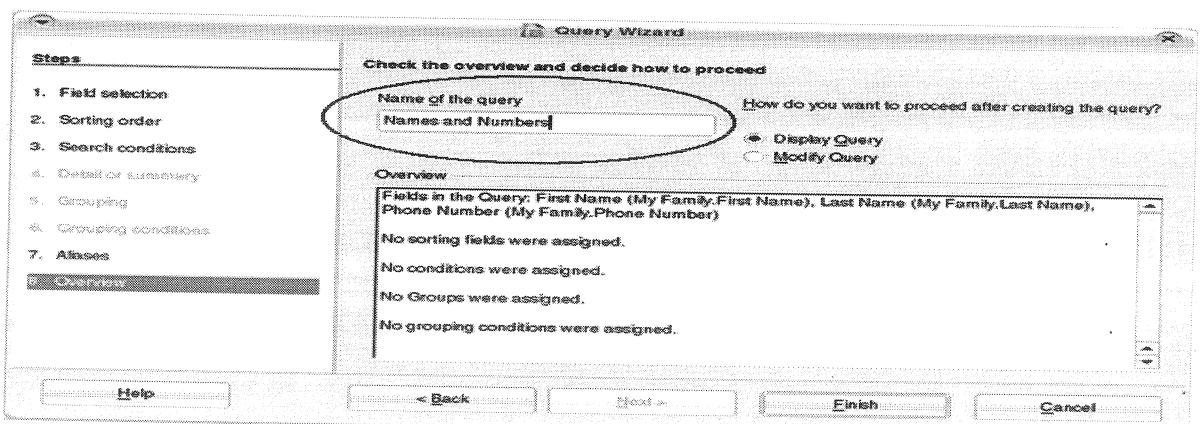
This should add the Phone Number field to the Fields in the Query list:



6. Click the button four times.

7. When the 'Check the overview' screen appears, in the Name of the querybox type:

Names and Numbers



8. Click the button.

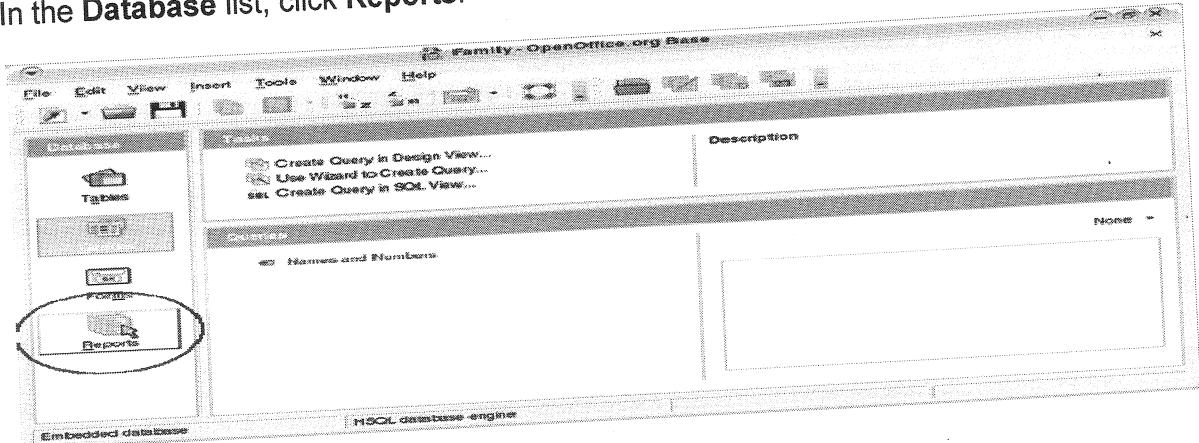
**The query is automatically saved and executed.
It should look like this:**

	First Name	Last Name	Phone Number	
>	Elvis	Presley	4105551212	
	Bo	Diddley	8005557890	

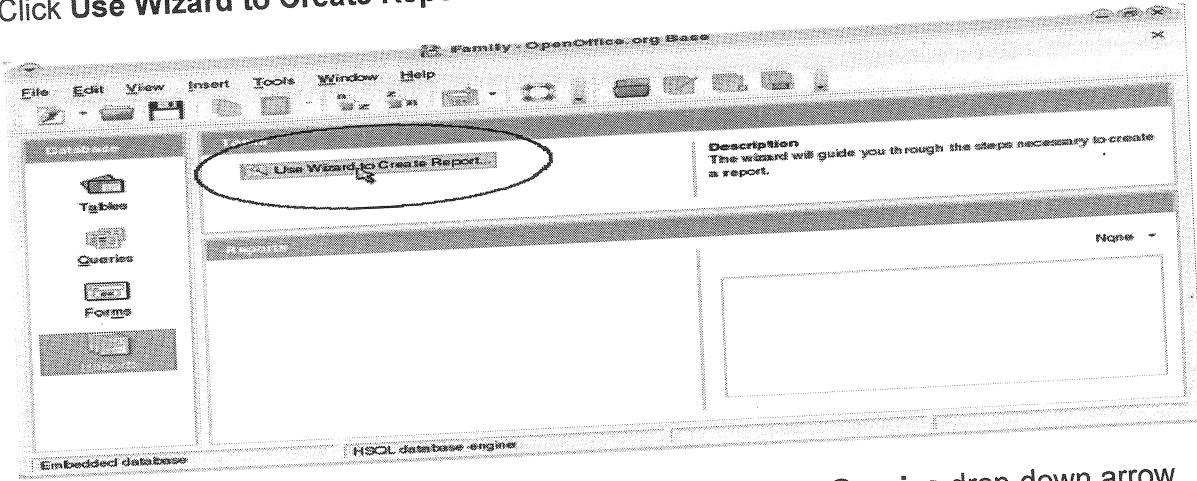
9. On the Menu Bar, click **File**, then **Close** to return to the database window.

4. Create reports ↗

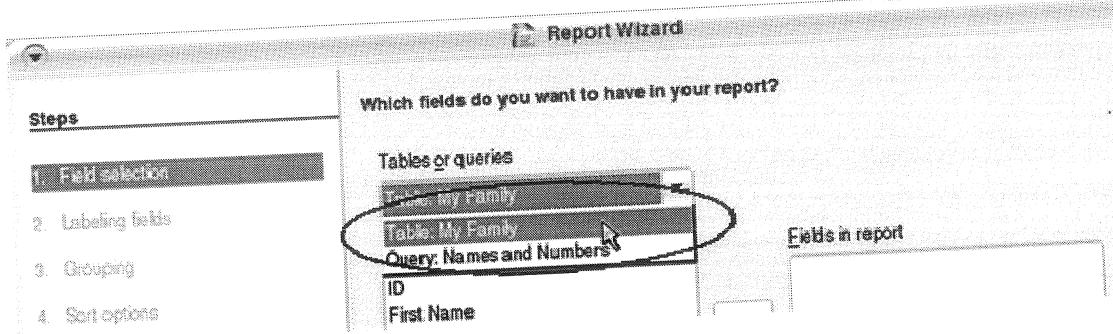
1. In the Database list, click **Reports**.



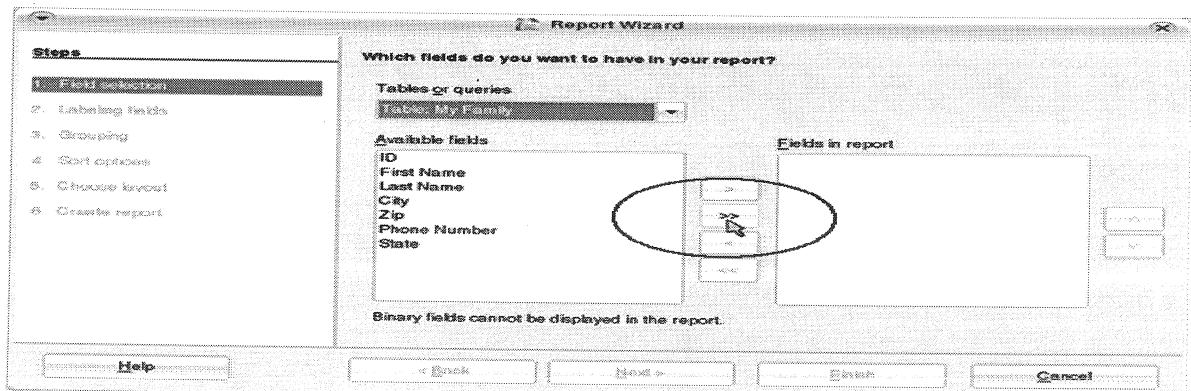
2. Click **Use Wizard to Create Report**.



3. When the **Report Wizard** window appears, click the **Tables or Queries** drop-down arrow.
When the list appears, click **Table: My Family**.



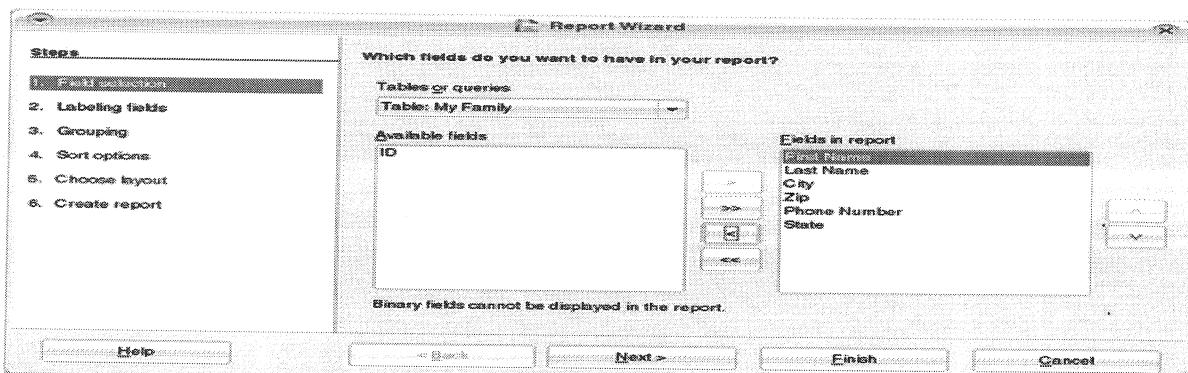
4. Click the button to move all the fields into the **Fields in report** list.



5. In the **Fields in report** list, click **ID**, then click the button.

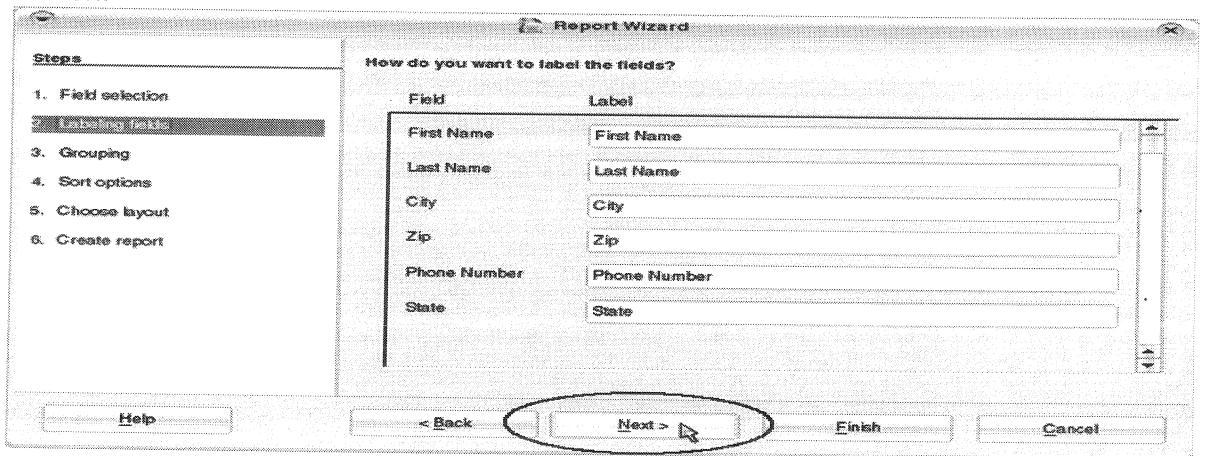
The **ID** field should be removed.

The report wizard should now look like this:

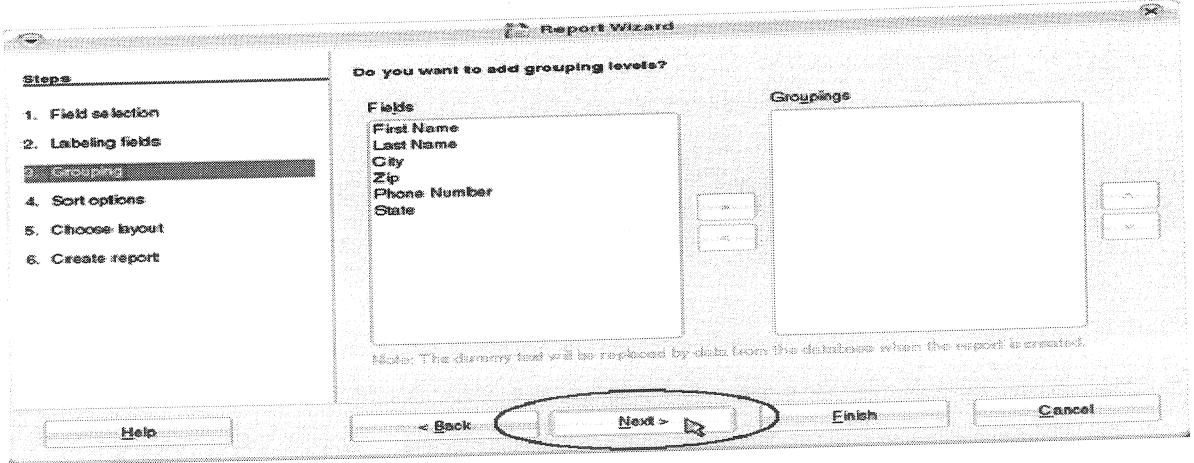


6. Click the button.

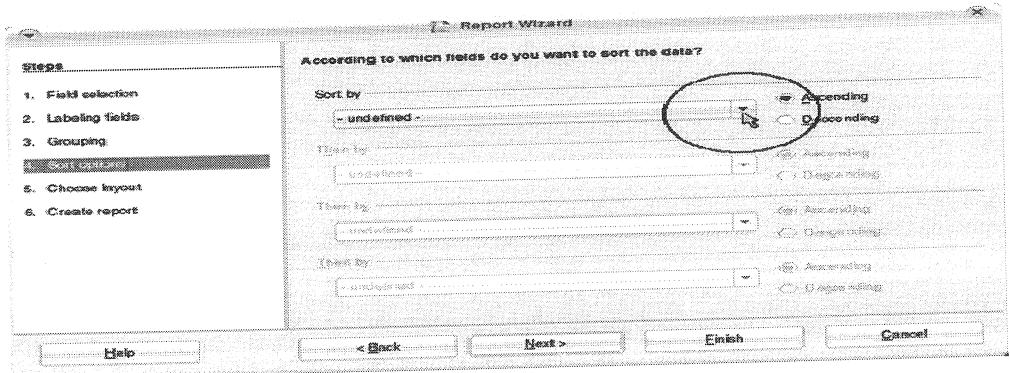
7. When the 'How do you want to label the fields' screen appears, click the button.



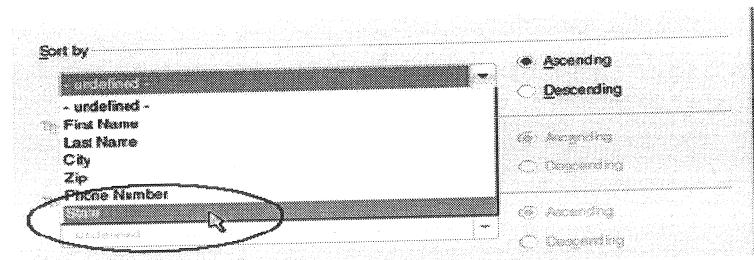
8. When the 'Grouping levels' screen appears, click the button.



9. When the 'Sort the data' screen appears, click the Sort by drop-down arrow.



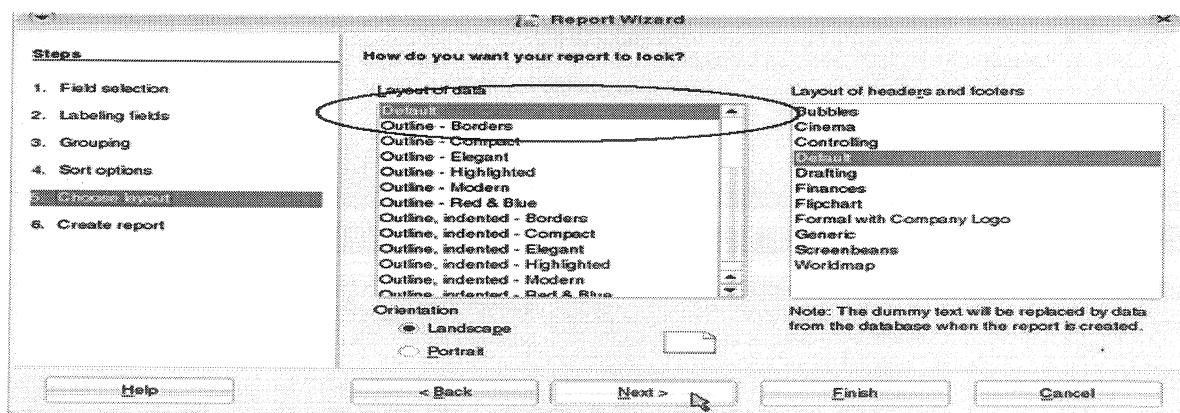
Then click State in the list.



10. Click the **Next >** button.

Choose layout and style

1. When the next screen appears, make sure Default is selected in the Layout of data section.



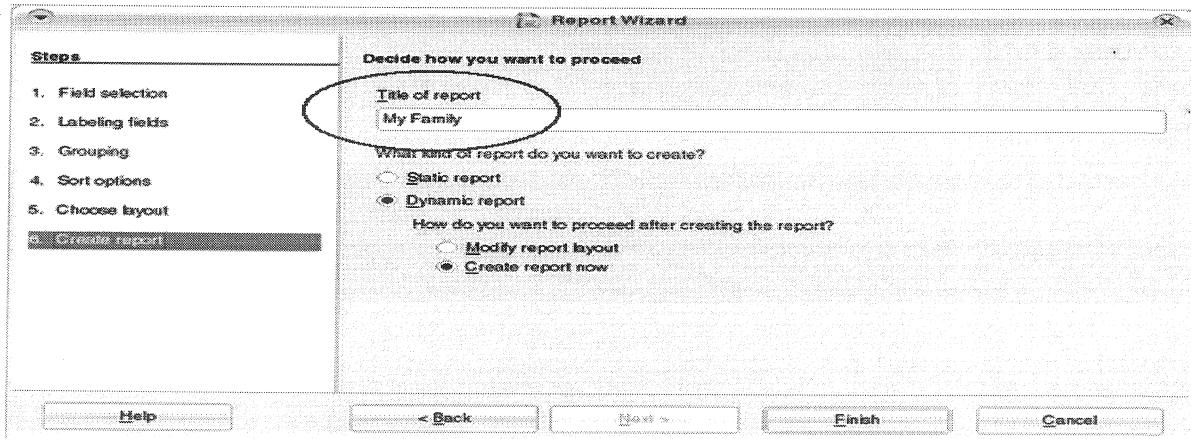
Then click the **Next >** button.

TIP: The **Layout of data** section allows you to customize the look and feel of your reports. You can click through the different layouts and see them applied to your report in the background.

4. View the report ↴

- When the next screen appears, make sure the **Title of report** box reads:

My Family



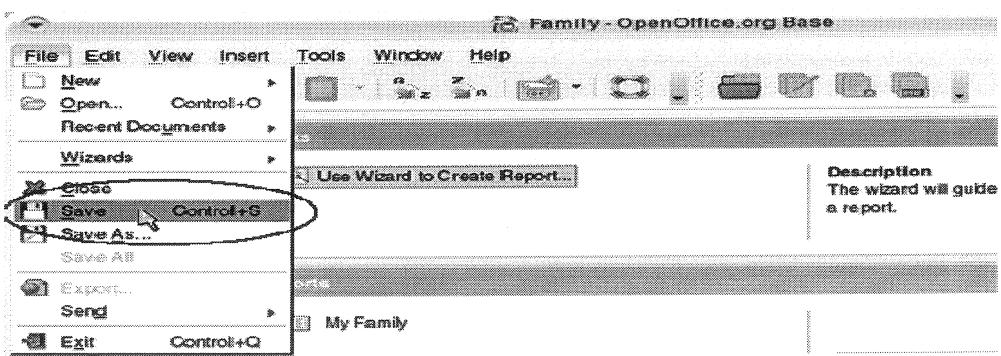
Make sure the **Create report now** radio button is selected.

- Click the **Finish** button. The report is automatically created, saved and opened. It should look like this:

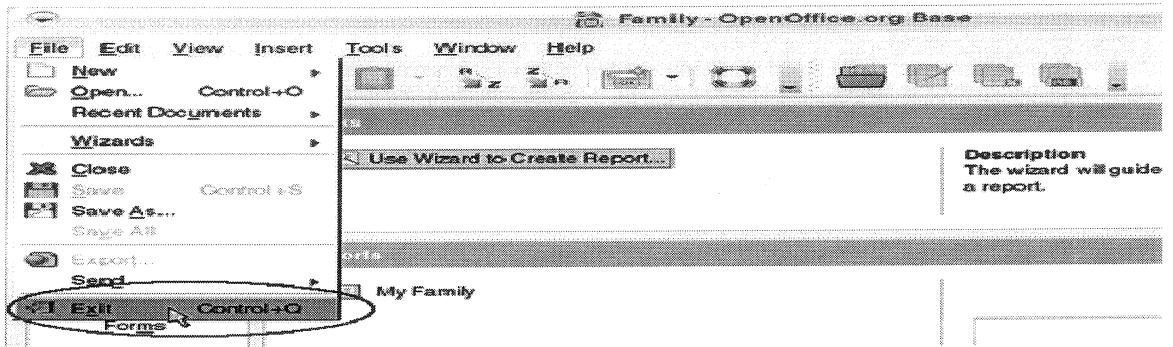
Title:
Author:
Date: 10/10/06

First Name	Last Name	City	Zip	Phone Number	State
Elsie	Preston	Baltimore	21212	4105551212	MD
Be	Didley	Richmond	23220	8005557690	VA

- On the Menu Bar, click File, then Close to return to the Family database window.
- On the Menu Bar, click File, then Save to save the Family database.



On the Menu Bar, click File, then Exit to close Base.



PRACTICE: DATABASE BASICS

- Open OpenOffice.org Base.
- Create a blank database in the Practice Base Files folder called Library.odb.
- Create a new table with these fields: ID, Title, Author, Genre, Date Purchased, Number of Pages
- Save the table as Books. Allow Base to create a Primary Key.
- Rename the ID field (the Primary Key) Book ID.
- Enter these data into the table to create the first record: Title: Ideas & Opinions
Author: Albert Einstein, Genre: Nonfiction, Date purchased: 11/18/2005
Number of Pages: 384, It should look like this:

The screenshot shows a table named 'Books' with the following data:

	Book ID	Title	Author	Genre	Date Purchased	Number of Pages
1	Ideas & Opinions	Albert Einstein		Nonfiction	11/18/2005	384

9. Close the Books table. 8. Create a form for the Books table. 9. Save it as **Books Table Data Input**. It should look like this:

Use the form to enter information for four more books. **TIP: Feel free to make things up.**

10. Create a query that pulls out this information: **Title, Genre, Number of Pages**

11. Save the query as **Quick Book Notes**. 12. Run the query. It should look like this:

13. Create a report based on the **Books** table. 14. Include all the fields of the **Books** table in the report, and sort the records based on Genre. **TIP: Format the report using the Default style.**

15. Name the report **Book Inventory**. It should look like this:

Title:
Author:
Date: 12/10/06

Book ID	Title	Author	Genre	Date Purchased	Number of Pages
5	Wuthering Heights	Emily Bronte	Fiction	7/22/2005	428
4	Great Expectations	Charles Dickens	Fiction	5/19/2005	515
3	Anna Karenina	Leo Tolstoy	Fiction	12/26/2005	1000
2	Moby Dick	Herman Melville	Fiction	8/31/2005	675
1	Ideas & Opinions	Albert Einstein	Nonfiction	11/18/2005	384

16. Close the report. 17. Exit OpenOffice.org Base.

Create a new presentation

This section shows how to set up a new presentation.

Start AutoPilot presentation

After launching Impress, AutoPilot Presentation window number 1 will appear (see Figure 1). If it does not, then go to **File > AutoPilot > Presentation**. (*File → New → Presentation*)

1) Under Type, select one of the following options: *(Ctrl+N)*

- *Empty Presentation* creates a presentation from scratch.
- *From Template* uses a template design already created as the base of a new presentation.
- *Open Existing Presentation* continues work on a previously created presentation.

2) Click Next.

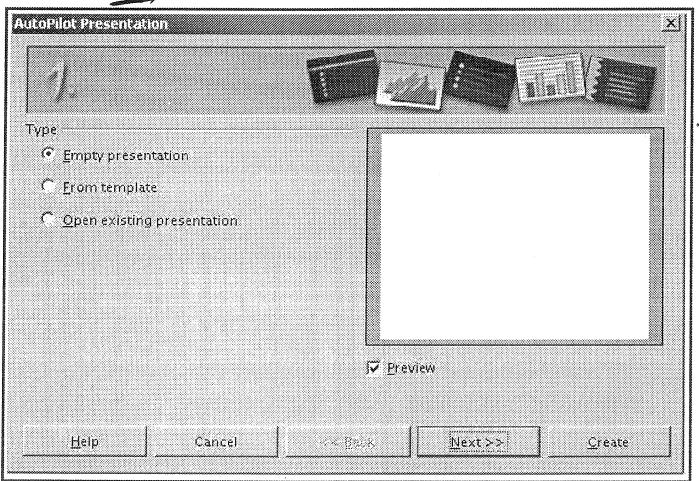


Figure 1: Autopilot Presentation window

Window number 2

AutoPilot Presentation window number 2 will appear (see Figure 2).

- 1) Under **Select a slide design**, choose a design, or to leave it blank, select <Original>.
- 2) Under **Select an output medium**, select how the presentation will be used. Most often, the presentations are created for a screen.
- 3) Click Next.

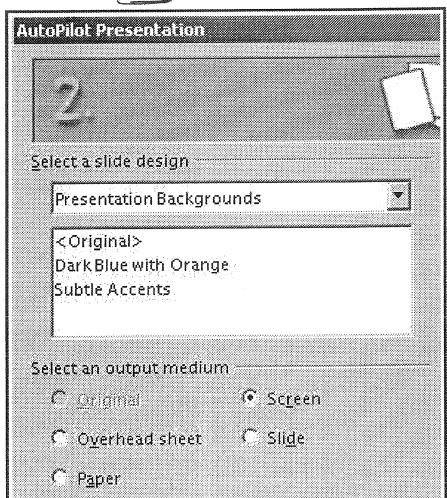


Figure 2: Autopilot Presentation window 2

1.1.2 Window number 3

AutoPilot Presentation window number 3 will appear (see Figure 3).

- 1) Choose the desired option from the effect menu. This option **Effect** creates transitions between all the slides in the presentation. To not have any transition effects, select **No Effect**. This option can be changed later, and each slide can have different transitions, if desired. For more information, see section 5–Transitions between slides.
- 2) Select the desired speed for the transition between the different slides in the presentation from the speed menu.
- 3) Click **Create**. A new presentation is created.

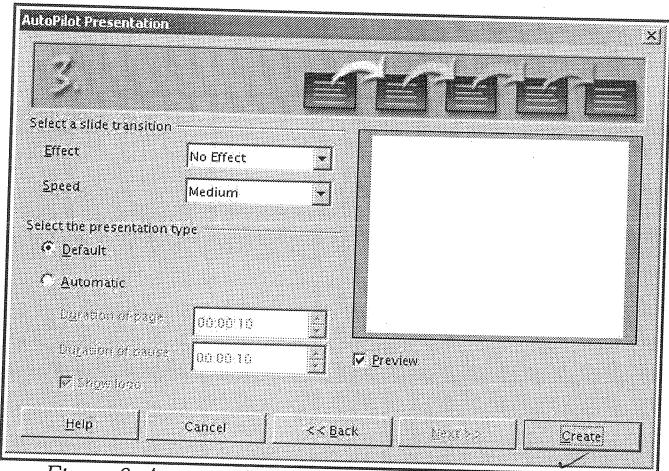


Figure 3: Autopilot Presentation window 3

⇒ save: bca.odp

1.1.3 Modify slide during AutoPilot

(Format → Slide Layout)

The Modify Slide window will appear (see Figure 4). The **Select an AutoLayout** section contains a wide variety of slides to incorporate in a presentation. Click the different slides in this box to see the all of the slides. There are slides with a title, a title and text, a chart, a title and clip art, or other combinations of these options. Notice that the bottom of this frame reflects the type of slide selected.

- 1) Type in a title for the slide in the area marked Name.
- 2) Select a slide layout from the **Select an AutoLayout** frame.
- 3) Click **OK**.

Tip: It is always a good idea to save and name the presentation after it is initially created. Remember to also save frequently while working on the presentation to prevent any loss of information should something unexpected occur.

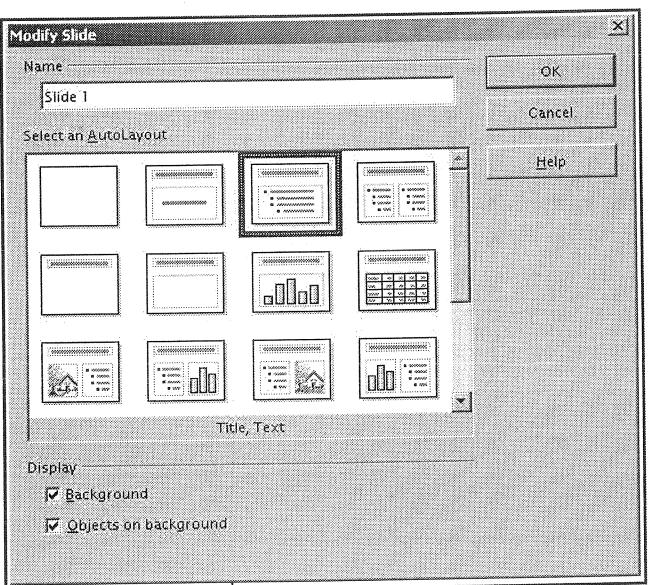


Figure 4: Modify Slide window

⇒ Insert new slides

Inserting slides into the presentation is the foundation of the project (see Figure 5).

- 1) Select **Insert > Slide**. The **Insert Slide** dialog box will appear.
- 2) Under **Name**, enter a title for the slide.
- 3) Under **Select an AutoLayout**, choose a slide layout.
- 4) Click **OK**. The slide will be visible on the screen and ready for modifying.

Tip: Another way to insert a slide is to use the **Presentation Palette**. It makes the general commands for slides easier to find. To access it, select **View > Toolbars > Presentation**.

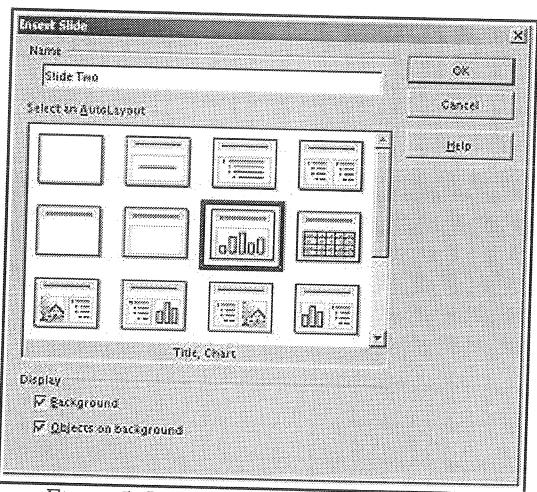


Figure 5: Insert Slide dialog box

⇒ Format page

To change the size of the slides, margins, and other settings, select **Format > Page**. The Page Setup window will appear (see Figure 6). Under the tab **Page**, there are options that help create the desired layout.

Use the **Background** tab to choose the settings for the background of the slides. Go to section 4–Change slide background to learn more about this feature.

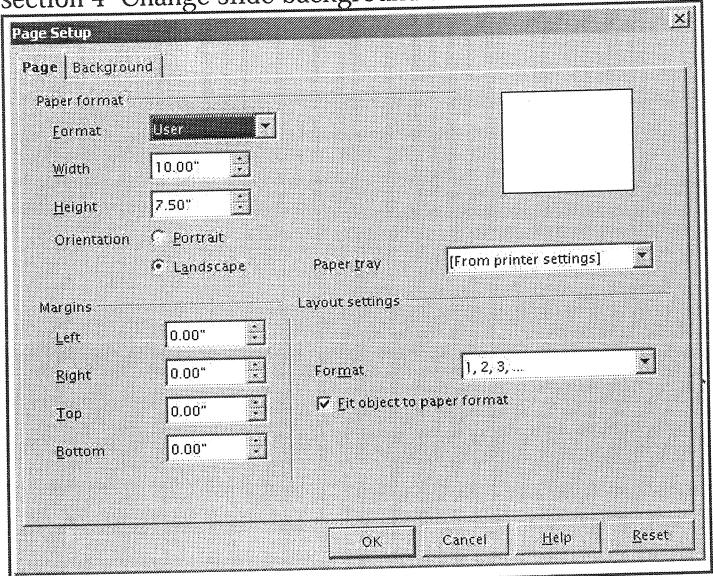


Figure 6: Page Setup window

✓ Format slides

Modify slides

- 1) Select **Format > Modify Layout**. The Modify Slide window will appear (see Figure 7).
- 2) Modify the layout by choosing a new layout from the **Select an AutoLayout** section.

Tip: Another way to modify a slide is to use the **Presentation Palette**. It makes the general commands for slides easier to find. To access it, select **View > Toolbars > Presentation**.

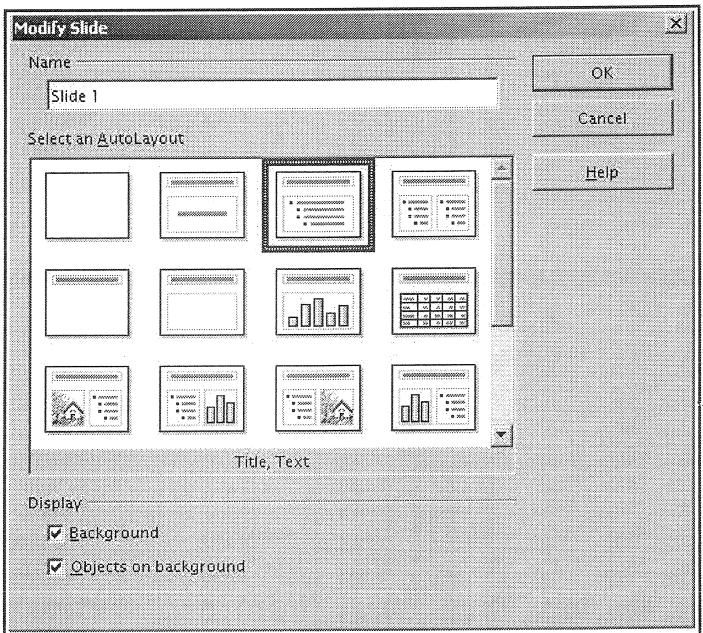


Figure 7: Modify Slide window

✓ Delete slides

- 1) Go to the slide to delete.
- 2) Select **Edit > Delete Slide**.
- 3) Click **Yes**.

✓ Rename slides

- 1) Select **Format > Modify Layout**.

The Modify Slide window will appear. Under **Name**, enter the new name of the slide.

Rearrange slides

Rearranging the slides is most easily done in the **Slides View**.

- 1) Select **View > Workspace > Slides View**. The slides will appear in miniature view from left to right, in their current order (see Figure 8).
- 2) Change the order of the slides by dragging and dropping them to the new location. A black line will appear between the slides. This shows where they will go.

Tip: An easy way to switch between different views is to use the **View buttons**. These are located on the right side of the border of the Impress window. For more information about the different viewing options and the view buttons, see section 6–Slide views.

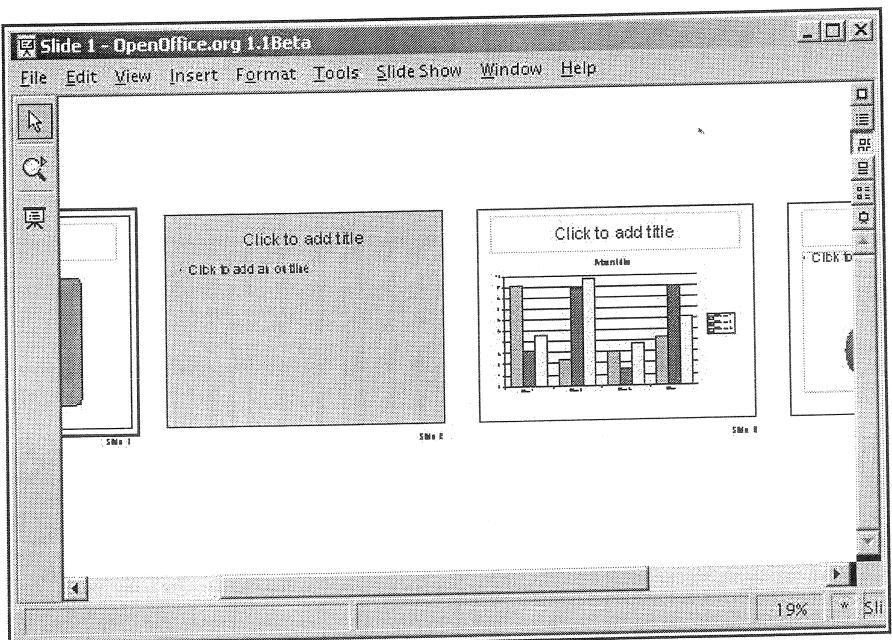


Figure 8: Slides View

Insert text

There are two ways to insert text into presentation. One way is to use the AutoLayout as described in section 1.4–Format slides. The other is to create a text box from scratch using the text tool.

Insert text with text boxes created by AutoLayout

- 1) Click in the text box that reads “Click here to...”
- 2) Type information into the text box.

Create a text box from scratch

- 1) Look at the main toolbar. It appears on the left hand side of the Impress screen. If it is not visible, go to **View > Toolbars > Main Toolbar**.
- 2) Click on the Text  tool (see Figure 9). There are other text tools within this button, but make sure you have the right tool selected.
- 3) Draw a box for the text on the slide. The height of the box will automatically change to the height of the first line. The box will grow as the text is added.
- 4) As soon as the box is finished and the mouse is released, the cursor will appear and the box is in edit mode.
- 5) Click outside the box to exit edit mode. Edit the text later.

Tip: Click the gray frame of the text box to exit edit mode. Delete the object immediately with the **Delete** key. To delete a text box, click in the gray frame. The frame will disappear, leaving only

green sizing handles. Press the **Delete** key to delete the text box.

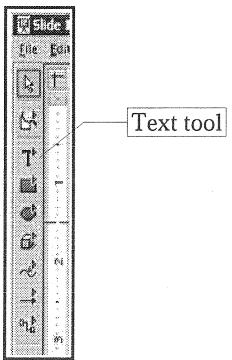


Figure 9: Main toolbar

Format text

After the text has been created and selected, it is possible to format the text to make it more legible and consistent with the style of the presentation.

Select text

The text must be selected before it can be formatted.

To select the text:

- If all the text in a textbox should be changed, select the text box (green sizing handles will appear).
- If only part of the text in a textbox should be changed, then click in the textbox and highlight the text that will be changed.

Format character

To view the Character Formatting options, select **Format > Character**. The Character window will appear (See Figure 10).

- *Font tab* has options to help create the desired effect for the type in the presentation. You can view what the text will look like in the preview box in the bottom of the window.
- *Font Effects tab* has other options to enhance the text such as underlining and font color.
- *Position tab* has advanced options that allow users to customize text spacing, position, and scaling.

Tip: The **Object bar** is an efficient way to format text. The Object bar changes with each object that is selected to show the options for that object. For text boxes, it shows buttons and menus for formatting the text. To view the Object bar, select **View > Toolbars > Object bar**.

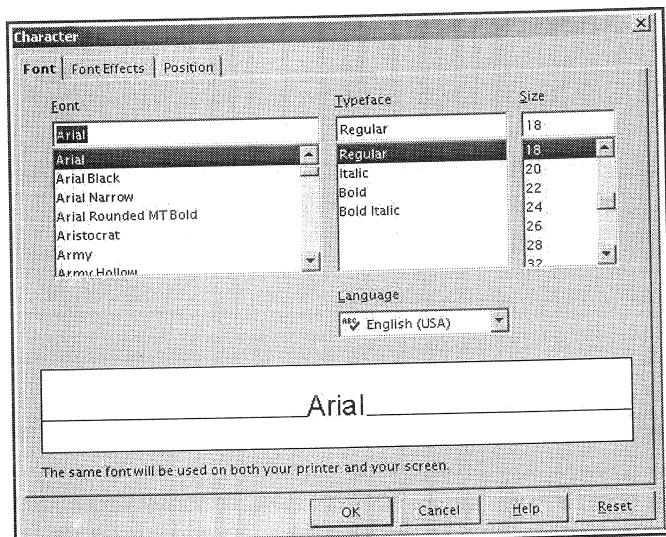


Figure 10: The Character window

Format paragraph

To view the Paragraph Formatting options, select **Format > Paragraph**. The Paragraph window will appear (See Figure 11).

- *Indents & Spacing tab* has options to adjust the spacing of the paragraph selected.
- *Alignment tab* contains the following options: left-aligned, right-aligned, centered, or justified text.

Tip: The Object bar is an efficient way to format text. The Object bar changes with each object that is selected to show the options for that object. For text boxes, it shows buttons and menus for formatting the text. To view the toolbar, select **View > Toolbars > Object bar**.

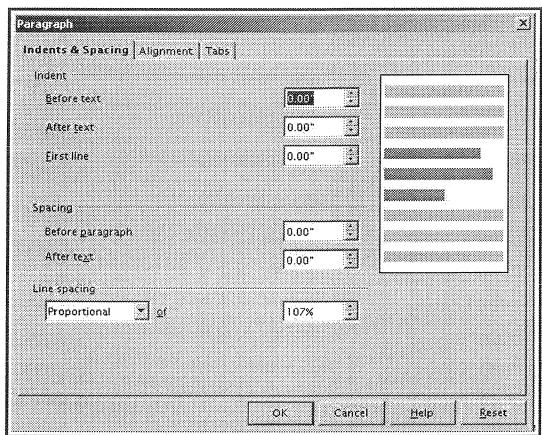


Figure 11: The Paragraph window

Create bulleted and numbered lists

There are two ways to create bulleted/numbered lists. One way is to use the AutoLayout as described in section 1.4–Format slides. The other method is to create a bulleted list from scratch using the text tool.

Create lists with text boxes created by AutoLayout

- 1) Choose an AutoLayout that contains a bulleted lists.
- 2) Click in the textbox that reads “Click to add an outline.”
- 3) Type information in the textbox. To create a sub-section, begin on a new line and press the Tab key. The line indents and the bullet changes. Each time the Tab key is pressed, the line indents further.

Change from a bulleted list to a numbered list in the AutoLayout

- 1) Select **Format > Numbering/Bullets**.

- 2) Select the **Numbering** tab.
- 3) Select the desired design for the numbers.

Create bulleted and numbered lists from scratch

- 1) Create and select a textbox or select one that has already been created. For information on how to creat a textbox, see section 1.5–Insert text.
- 2) Select **Format > Numbering/Bullets**.
- 3) Choose the options to use for the outline.
- 4) Begin typing in the text box. To create a sub-section, begin on a new line and press the Tab key and the line will indent and the bullet will change. Each time the Tab key is pressed, the line indents further.

Create master slides

Master slides contain formatted text and background items that will appear on all of the slides in the presentation. They will give the presentation a high degree of consistency and save time when designing the slide show. The font type in the titles and/or bulleted text passages on all of the slides can be changed at one time by using master slides.

- 1) View the master slides by selecting **View > Master > Drawing** (see Figure 12).
- 2) Make any formatting changes, such as to the background color, fonts, sizes, shapes, and images, that are intended to be on every slide.
- 3) Select **View > Slide** to return to the Drawing view. There the changes to the master slide can be viewed throughout all of the slides.

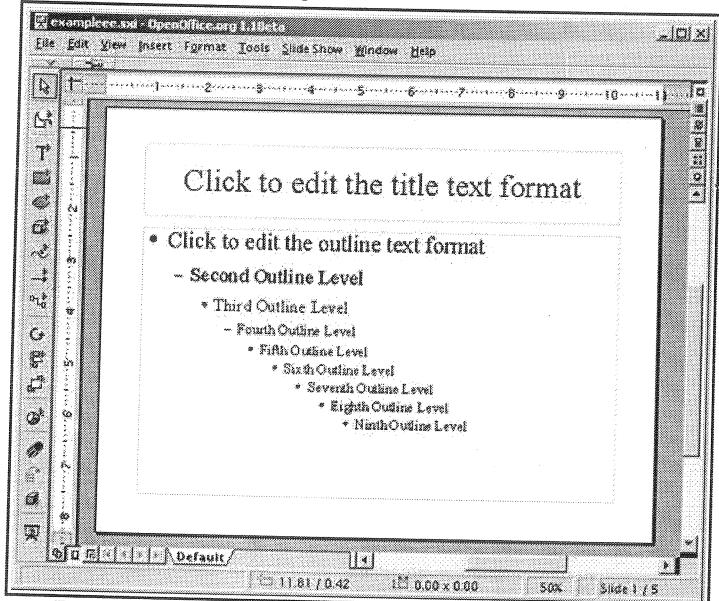


Figure 12: Master Slides view

Create charts

Insert a chart

There are two ways to insert a chart into a slide. One way is to use the AutoLayout as described in section 1.4–Format slides. The other method is to create a chart from scratch.

Create a chart within an AutoLayout

- 1) Select **Format > Modify Layout**.
- 2) Choose a layout in the **Select an AutoLayout** section that contains a chart.
- 3) Click **OK**.
- 4) Double-click the chart icon in the center of the chart area to reveal the full-sized chart. A chart will appear (see Figure 13). The chart that appears is created using sample data. Enter the desired data in the chart.

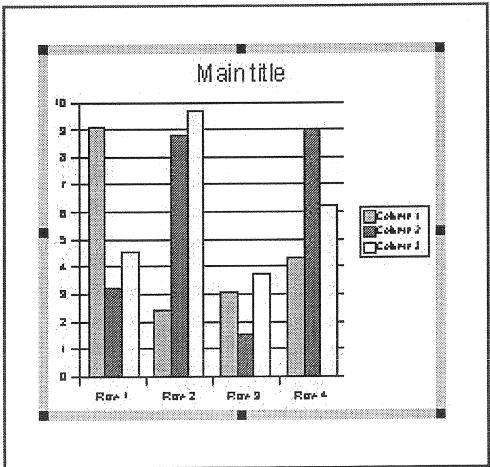


Figure 13: Chart made with sample data

Create a chart from scratch

- 1) Select **Insert > Chart**. A chart will appear (see Figure 13). The chart that appears has been created using previously made sample data.
- 2) Enter the desired data in the chart.

Choose a chart type

- 1) Double click the chart so that it is enclosed by a gray bounding box.
- 2) The main toolbar has now changed to show tools specifically for charts. Click the **Edit Chart** **Type** tool or select **Format > Chart Type**. The **Chart Type** window appears (see Figure 14). If the main toolbar is not showing, select **View > Toolbars >**

Main.

- 3) In the section **Chart Category**, select either 2D or 3D to see the different types of charts.
- 4) In the section **Chart type**, select one of the icons to see the different variants of the chart type in the Variants section.
- 5) Once a chart variant is chosen, click **OK**. The chart will reflect the new type selected.

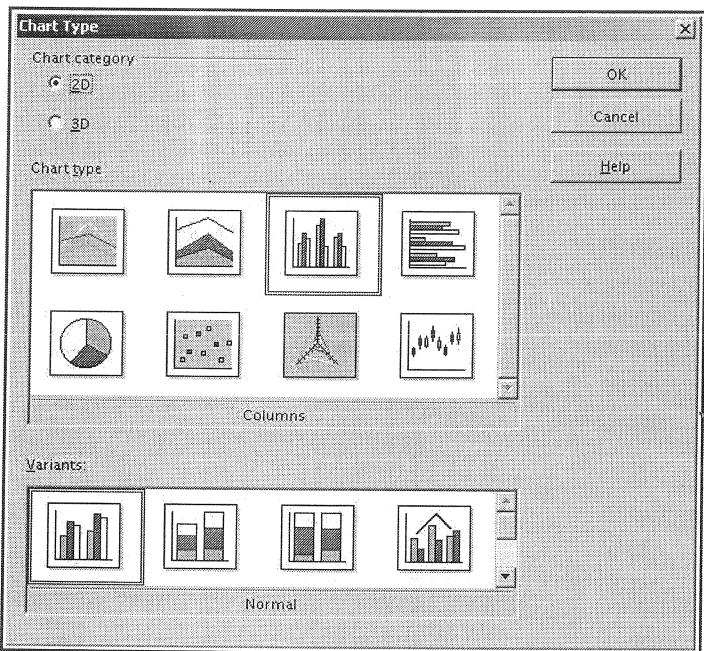


Figure 14: Chart Type dialog box

Enter chart data

Open chart data window

- 1) Double click the chart so that it is enclosed by a gray bounding box.
- 2) The main toolbar has now changed to show tools specifically for charts. Click the **Chart Data** tool or select **Edit > Chart Data**. The **Chart Data** window appears. (If the main toolbar is not showing, select **View > Toolbars > Main**.)

Enter Data

Enter data in the Chart Data window (see Figure 15).

- *Insert buttons* insert a row or column.
- *Delete buttons* remove the information from a selected row or column.
- *Switch buttons* exchange the contents of the current row with the contents of the row below, or a column with the column to the left.
- *Sort buttons* organize the content of the currently selected column or row in ascending order.
- *Apply to Chart* transfers the data from the table to the chart.
- *Input Field* is where to insert data. Enter information in the boxes under the correct rows and columns.

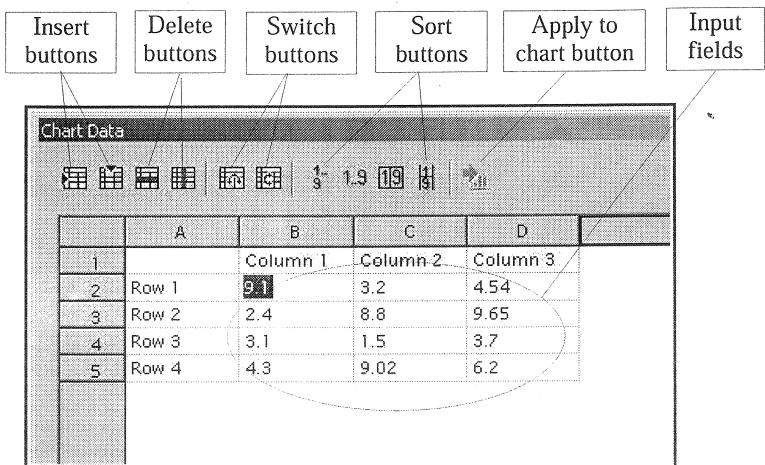


Figure 15: Chart Data area

Format the chart

There are two main areas of the chart when it appears on the slide. These areas control different settings for the chart.

- *Chart wall* controls the elements within the parameters of the actual chart that is displaying the data.
- *Chart area* controls the area surrounding the chart, including the title and key. Knowing this is helpful when deciding where to look when it becomes necessary to format certain aspects of a chart.

Resize chart

- 1) Click on the chart.
- 2) Green sizing handles appear around the chart. To **increase or decrease the size** of the chart, click and drag one of the markers in one of the four corners of the chart. To **maintain the correct ratio** of the sides, hold the shift key down while you click and drag.

Change background

The chart area controls the area surrounding the chart, including the title and key.

- 1) Double click the chart so that it is enclosed by a gray bounding box.
- 2) Select **Format > Chart Area**. The **Chart Area** window will appear (see Figure 16).
- 3) Choose the formatting setting desired.

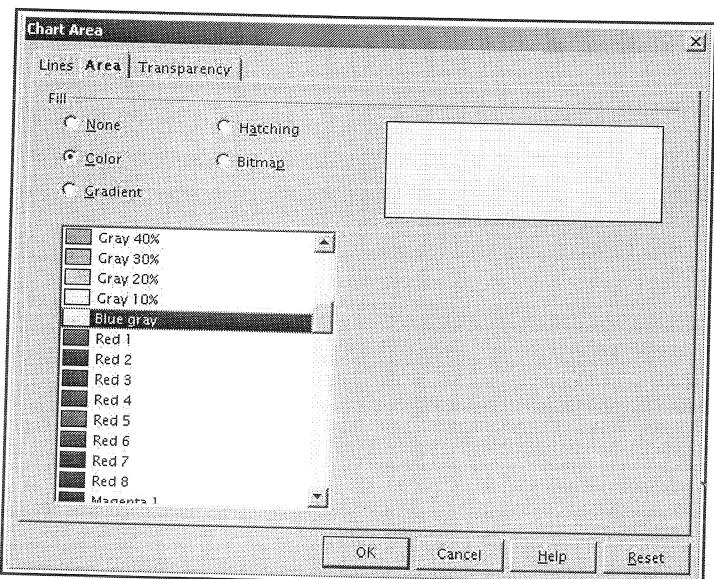


Figure 16: Chart Area window

Change the background of chart

The chart wall option includes the elements within the parameters of the actual chart that is

displaying the data.

- 1) Double click the chart so that it is enclosed by a gray bounding box.
- 2) Select **Format > Chart Wall**. The **Chart Wall** window will appear.
- 3) Choose the formatting setting desired.

Format menu

- 1) The format menu is used to modify a chart into the ideal compliment to the slide presentation. Double click the chart so that it is enclosed by a gray bounding box..
- 2) Under the format menu, located at the top of the Impress window, view the following options and format the chart as desired (see Figure 17):
 - *Title* formats the titles of the chart, the x axis and y axis.
 - *Legend* formats the location, borders, background, and type of the legend.
 - *Axis* formats the lines that create the chart as well as the font of the text that appears on both the X and Y axes.
 - *Grid* formats the lines that create a grid for the chart.

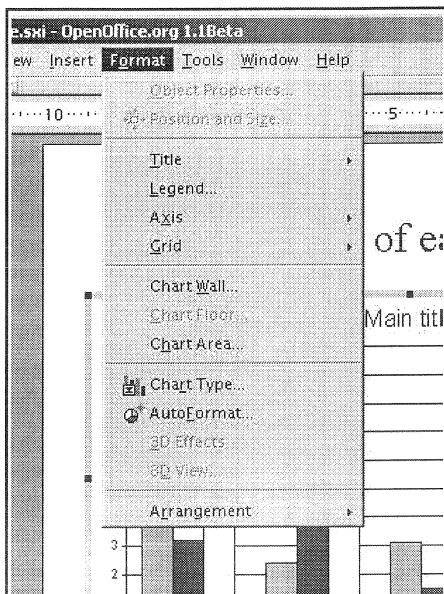


Figure 17: Chart format menu

Import graphics

There are many different types of graphics that can be placed in presentations. Import graphic files or choose pre-designed graphics from the **Impress Gallery**.

Import from file

- 1) Select **Insert > Graphics** to access the **Insert Graphics** window (see Figure 18).
 - 2) Click the down-pointing triangle to the right of the **Look in** dialog box to find the location of the desired graphic file.
 - 3) Click **Open** to insert it onto a slide. The graphic object will appear with green sizing handles around its outer edges.

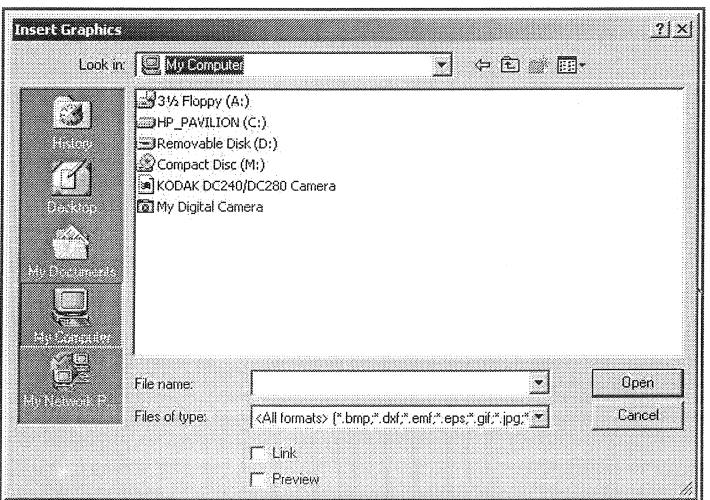


Figure 18: Insert Graphics window

Import from gallery

Insert graphic from the Gallery

The Gallery is a set of images that were designed to help users select presentation graphics.

- 1) Select **Tools > Gallery**.
- 2) The graphic objects are in the Gallery and the **Gallery Theme box**. The gallery objects can be changed in the gallery theme box.
- 3) Drag and drop the desired object from the Gallery onto the appropriate slide(s).
- 4) When done, click the **Hide button** to hide the Gallery, and click the **Stick button** to show the Gallery again (see Figure 19).

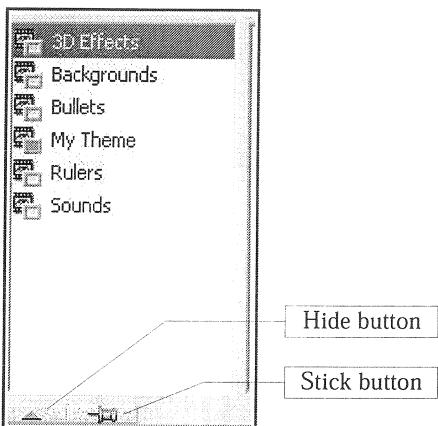


Figure 19: The Stick and Hide buttons

Format graphic images

Increase or decrease size of graphics

- 1) Place the pointer on one of the green sizing handles in one of the four corners of the chart until it changes to a double-sided diagonal arrow.
- 2) Click and drag outward. Hold the shift button to keep the ratio of the sides the same.

Move graphics

- 1) Place the pointer on the graphic until the pointer changes to a four-sided arrow.
- 2) Click and drag, keeping the mouse button depressed until the graphic is in the desired location.

Delete graphics

- 1) Click on the graphic until so the green sizing handles appear.
- 2) Press **Delete**.

Tip: Advanced options are available in the **Position and Size** window. Select **Format > Position and Size**.

Create lines and shapes

The main toolbar contains the tools used to create rectangles, circles, other shapes, and lines to enhance the design of the presentation. If the main toolbar is not showing, select **View > Toolbars > Main**. Figure 20 shows the different tools on the main toolbar that can be used to edit shapes and lines.

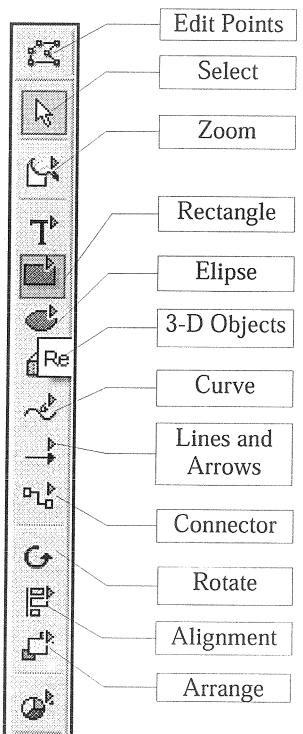


Figure 20: Shape and line tools

Insert lines and shapes

There are two types of shapes—unfilled and filled.

To create shapes and lines:

- 1) Select the desired shape tool or line tool.
- 2) Click and drag to create the object on the slide (see Figure 21).

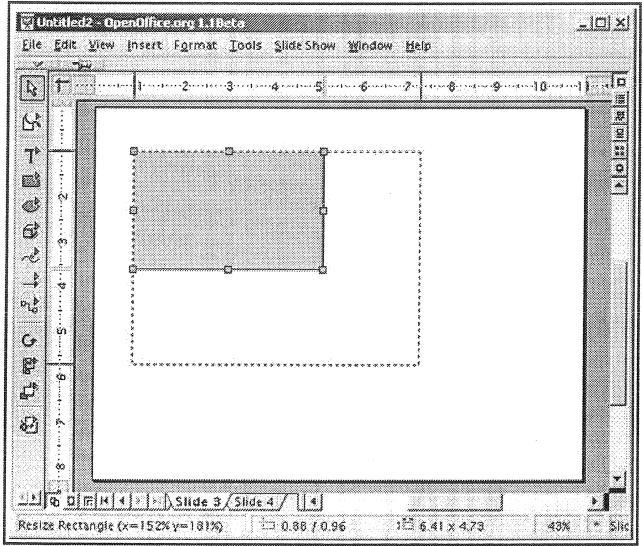


Figure 21: Creating a shape

Format lines and shapes

The format menu is used to modify a shape into the ideal compliment to the slide presentation (see Figure 22).

To format lines and shapes:

- 1) Click on the shape or line to select it.
- 2) Under the format menu, located at the top of the window, view the following options and format the object as desired:
 - *Line* has options such as line style, line color, and width.
 - *Area* allows users to format the fill, or interior, of an object. This includes color, transparency, and pattern.
 - *Position and Size* allow an object to be moved, rotated, and manipulated according to specified measurements.

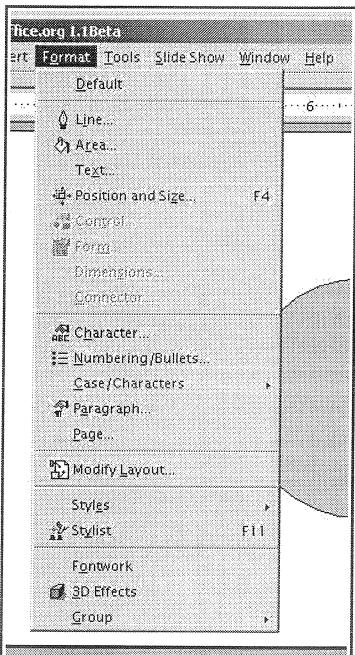


Figure 22: Shape format menu

Change slide background

To change a slide background:

- 1) Select **Format > Page**. The **Page Setup** window appears with two tabs, **Page** and **Background** (see Figure 23).
- 2) Click the **Background** tab.
- 3) Make desired changes.
- 4) Click **OK**.
- 5) A box appears asking “**Background settings for all pages?**” Click **Yes** if you would like the background to appear on all the pages, or **No** if you would like the background to only appear on the selected slide.

Remember: Make changes to areas and pages in **Master Slide View** in order for those changes to be reflected on all slides in your presentations. For information on master slides, see section 1.8—Create master slides.

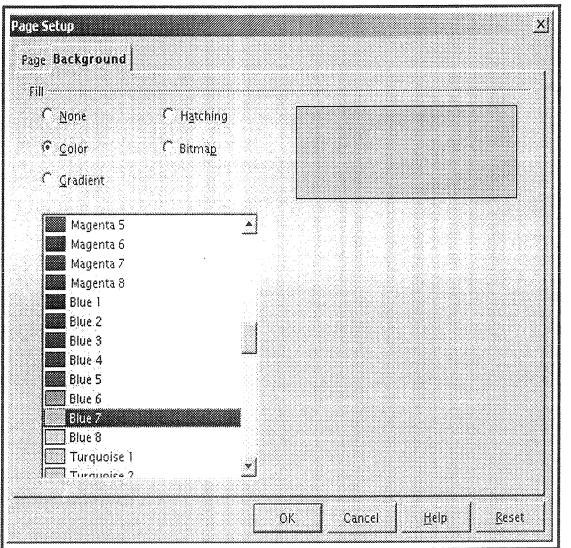


Figure 23: Background tab

Change background of an area

To change the background of an area, such as a text box or a shape:

- 1) Select the desired area. When it is selected, it will be surrounded by a gray box that contains green sizing handles.
- 2) Select **Format > Area**. The Area window appears (see Figure 24).
- 3) Choose the desired settings.
- 4) Click **OK**.

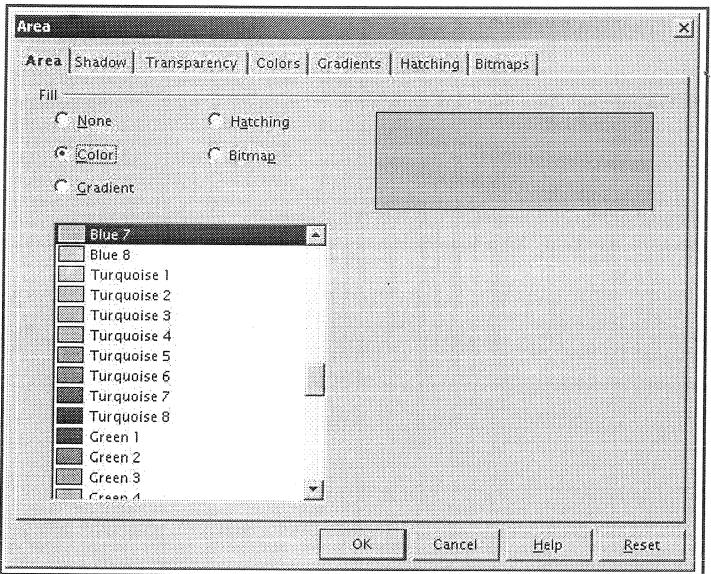


Figure 24: Area window

Transition between slides

Slide transitions add a special edge to a presentation and smooth the transition between each slide.

Add transition effect

- 1) Click on the desired slide. The transition occurs when the slide show moves to this slide.
- 2) Select **Slide Show > Slide Transition** to open the **Slide Transition** window. The Slide Transition window contains different options to create a transition (Figure 25).

In the Slide Transition window are buttons to help create the transition:

- *Effects and Extras buttons* show the available effects for the slide transition.
- *Update button* displays the current settings for the slide in the Slide Transition window.
- *Assign button* assigns the transition to the slide.
- *Preview button* previews the transition in a small window. Click in the window to preview the transition effect.

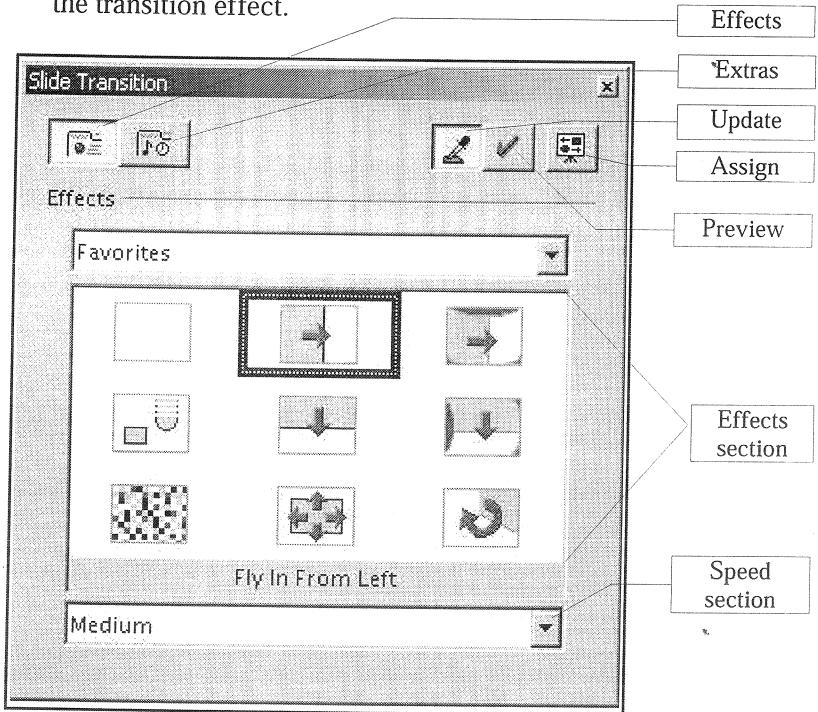


Figure 25: Slide Transition window

5.1.1 Effects button

The **Effects** button shows the available effects for the slide transition (see Figure 25).

- *Effect section* allows the selection of effects for fading from one slide to another. To delete a transition, select **No Effect**.
- *Speed section* controls the speed with which the transition occurs. The options are slow, medium and fast.

Extras button

Click the **Extras** button for additional options for the slide transition (see Figure 26).

- *Switch section* controls the timing of the transition. Specify automatic, semiautomatic, or manual slide transition.
- *Slide display time* specifies the length of time each slide is displayed. This field is only active if automatic transition is selected.
- *Sound section* controls sounds that occurs during transitions. Select a sound file from the options or browse for a specific file.

Tip: The same process can be used to create transitions for objects within the slide, such as a title or picture. To do this, select the object instead of selecting a slide.

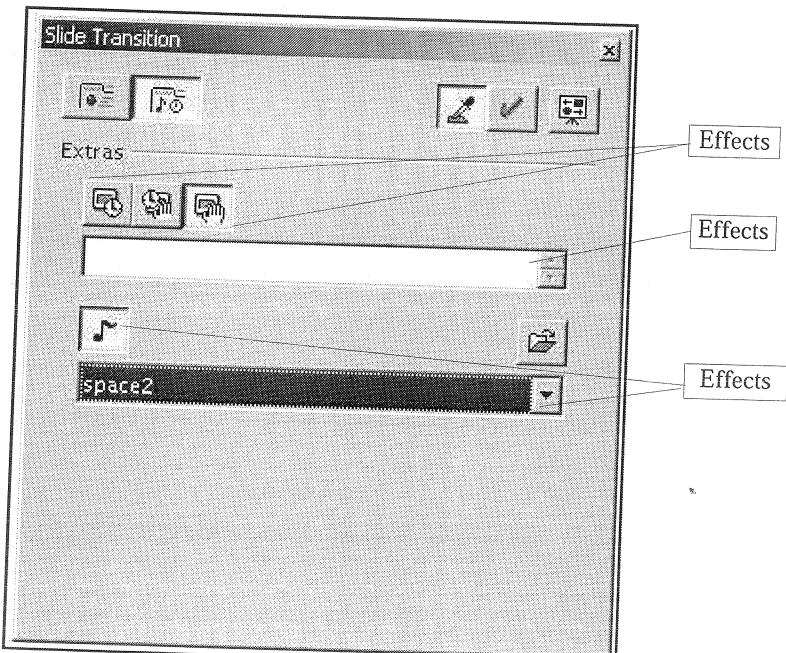


Figure 26: Extras options

Slide views

The slide views make it easier to create presentations and also allow users to view the presentation in different contexts.

Slide views

There are five different slide views (see Figure 27).

- *Handout View* reduces several slides of the presentation and arranges them for printing.
- *Notes View* includes extra notes that are not seen when the presentation is shown.
- *Slides View* displays slides in reduced size in the work area.
- *Outline View* shows topic titles for the slides of the presentation, to edit and arrange the slides by restructuring the outline.
- *Drawing View* provides the tools from the toolbar and the menu commands which are available for creating and editing objects.

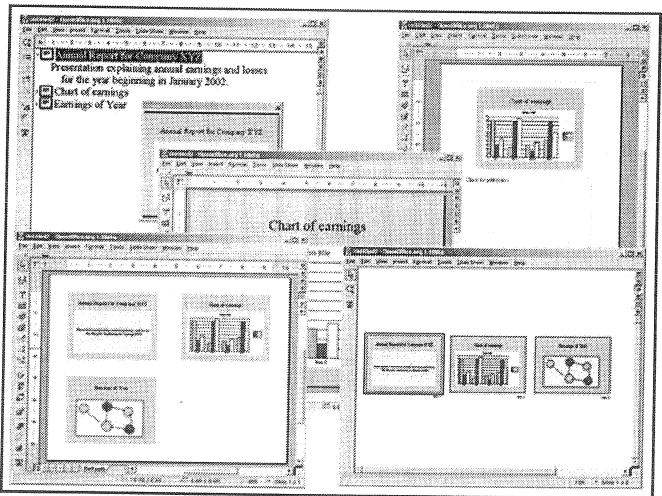


Figure 27: Slide view examples

Change slide views

There are two ways to change slide views:

- The views can be accessed by selecting **View > Workspace > [choose the slide view desired]**.
- They can also be accessed by the **View Buttons**, which are located in the upper-right corner of the Impress screen. Figure 28 shows the various view buttons.

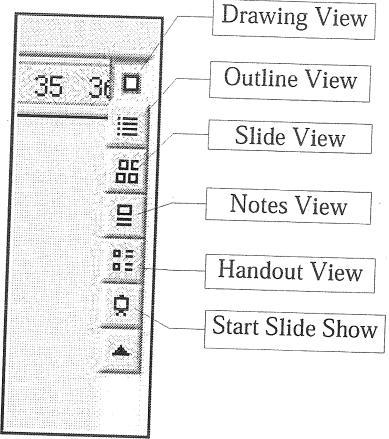


Figure 28:The View buttons

Run slide show

- 1) Select **Slide Show > Slide Show**, to start slide show.
- 2) Use the **arrow keys** on the keyboard to go to the next slide or to go back to the previous one. Other options include clicking the mouse or pressing the **spacebar** on the keyboard to advance to the next slide.
- 3) When the last slide appears, the message “**Click to exit presentation**” appears. Click the mouse or press any key to exit the presentation.

Export slide show as other formats

Unfortunately, not every computer has Openoffice.org software. That is why it is important to have options available to make Impress flexible and viewable on virtually any platform. There are three especially useful features that accomplish this: the export as PDF, Shockwave, and HTML options.

Export as PDF

Portable Document Format files (PDFs) are file formats that are compatible with most platforms and applications. Impress has the ability to save files as PDFs, or .pdf, so that they can be sent to anyone for viewing as long as the user who wishes to view them has Adobe Acrobat Reader. Acrobat Reader is a free program that comes standard on most computers (for more information, go to www.adobe.com).

Caution: Saving in PDF format does not retain animation and slide transitions.

To export the presentation as a PDF:

- 1) Select **File Export**.
- 2) Select the location and name for the file.
- 3) Under **File Format**, Select **PDF-Portable Document Format (.pdf)**.
- 4) Click **Save**.
- 5) The PDF Options window appears. Under **Pages**, select which pages (slides) are to be included in the PDF.
- 6) Under the option **Compression**, select the format that the document will be used as. The compression also affects the files size. **Screen** is the smallest file size and **Press** is the largest.
- 7) Click **Export**.

Export as flash file

A Flash (also called Shockwave) file format (.swf) is based on the program Flash, which is created by Macromedia, to create movie presentations that are viewed using a variety of Flash viewers. This allows the presentation to be viewed on almost any computer that has quicktime (for more information, go to www.macromedia.com)

Caution: Saving in Flash format does not retain animation and slide transitions.

To export as a Shockwave (.swf) file:

- 1) Select **File Export**.
- 2) Select the location and name for the file.
- 3) Under **File Format**, select **Macromedia Flash (.swf)**.
- 4) Click **Save**.

Export as HTML file

HTML or Hyper Text Markup Language is represented by the extension .htm. Saving Impress presentations in this format allows users to upload these files to the Internet so that they can be viewed as Web pages. Another important characteristic of this file format is that it can be viewed by a wide array of applications and computer platforms.

To export as an HTML file:

- 1) Select **File Export** (see Figure 29).
- 2) Select the location and name for the file.
- 3) Under **File Format**, Select **HTML Document(OpenOffice.org Impress)(.htm)**.
- 4) The **HTML Export** window appears. This is a guide that helps set up the HTML document. Follow the guide. If problems occur, use the default settings, which generally work well when saving in this format.
- 5) Click **Create** at the end of the guide.

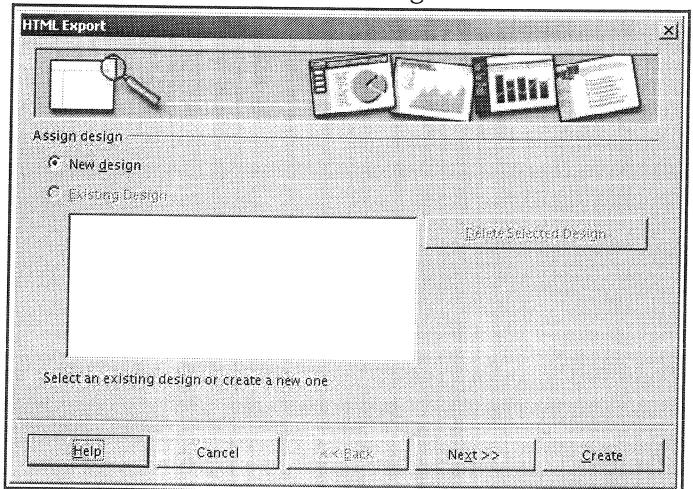


Figure 29: HTML Export window

Import documents from Microsoft Word or Microsoft PowerPoint

Impress allows users to import documents from Microsoft® PowerPoint, which is a widely used presentation creation program. The imported document can be used just as a regular Impress presentation would be used. It is even possible to save presentations as either PowerPoint or Impress files.

Microsoft® Word, another widely used application, is a word processing program that can be easily opened in Impress.

Open a Microsoft file in the same manner as you would if you wanted to open an Impress file.

1) Select **File > Open**.

2) Choose the file to open.

Sometimes there are inconsistencies that occur when a Microsoft document is translated into Impress. However, these are simple to fix.

Most often, the document is blurred or displays inconsistent fonts. To fix these problems, highlight the type that needs to be corrected and reformat the text to the desired format.

These steps also work for most of the other problems that occur. Select the item that needs to be corrected and then implement the correct settings.

Appendix A: Shortcut keys

Shortcut keys	
Enter key	Activate the focused button in a dialog box.
Esc	Terminate the action or dialog box.
Spacebar	Toggle the focused check box in a dialog box.
Cursor keys	Change the active control field in an option section of a dialog box.
Tab	Advance focus to the next section or element in a dialog box.
Shift + Tab	Move the focus to the previous section or element in a dialog box.
Alt+Down Arrow	Open the list of the control field currently selected in a dialog. These shortcut keys apply not only to combo boxes, but also to icon buttons with pop-up menus. Close an opened list by pressing the Escape key.
Del	Delete the selected item(s) into the recycle bin.
Shift+Del	Deletes the selected item(s) without putting them in the recycle bin.
Backspace	Go up one level (go back) when a folder is shown.
Control + Tab	Go to the next document that is open (except when positioned at the start of a header – instead a tab is inserted).
Shift + Control + Tab	Go to the previous document that is open.
Control + O	Open a document.
Control + S	Save the current document.
Control + N	Create a new document.
Shift+Control+N	Open Templates and Documents dialog box.
Control + P	Print a document.
Control + Q	Exit the application.
Control + X	Cut the selected element(s).
Control + C	Copy the selected item(s).
Control + V	Paste from the clipboard.
Control + A	Select all.
Control + Z	Undo the last action.
Control + F	Open the Find & Replace dialog box.
Control + Shift + F	Search for the least entered search term.
Control + Shift + J	Toggle the view between Full screen mode/normal mode.
Control + Shift + R	Re-create the document window.
Control + I	Apply the italic attribute to the selected area. If the cursor is positioned in a word, this word is also marked in italic.
Control + B	Apply the bold attribute to the selected area. If the cursor is positioned in a word, this word is also marked in bold.
Control + U	Apply the underline attribute to the selected area. If the cursor is positioned in a word, this word is also underlined.
Control+Shift+O	Set the cursor on the Load URL field on the Function bar.
Alt + O	Transfer the word that was originally marked as unknown/incorrect (original) to the input row (word).

Appendix B: Function keys

Function key	Effect
F1	Open the OpenOffice.org Help menu.
Shift + F1	Access Context Help.
Control+F4 or Alt+F4	Close the current document (close OpenOffice.org when the last open document is closed).
F6	Set focus in next subwindow (e.g. document/data source view).
Shift+F6	Set focus in previous subwindow.
Control + F7	Access the Thesaurus.
F8	Edit Points.
Shift+F10	Open the context menu.
Control + F12	Reveal Drawing View.

Main Menu and Toolbars

In this document you will find references to Main Menu and various tool bars. The following figure references these objects, showing where they are located.

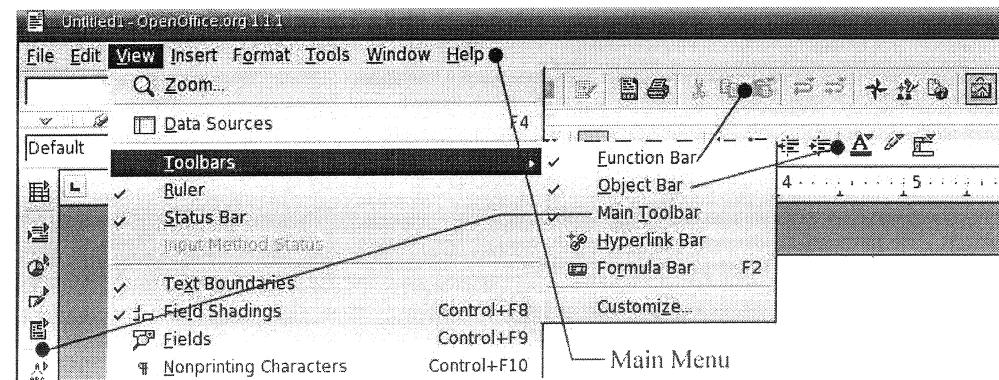


Figure 1. Location of menus and toolbars in OpenOffice.org Writer

What Mail Merge Means

OpenOffice.org Writer provides a very useful feature to create or print multiple copies of a document which must be sent to a list of different addresses.

The Writer document contains a mix of normal text and special text (fields) that reference the fields of a Data Source.

The Mail Merge function leaves the normal text unchanged, and replaces the fields with the data taken from the Data Source.

The following scenario illustrates how Mail Merge works.

Example: Sending a newsletter to a list of customers

Imagine a business that needs to send a newsletter to all of its customers.

There is already a Data Source containing the list of its customers with all the relative information: Address, Telephone, and so on.

The secretary who writes the newsletter uses OpenOffice.org Writer.

She writes the text of the newsletter, and instead of typing the destination address, inserts a field that references the address field in the Data Source.

At last she starts the Mail Merge function to print as many copies of the document as the number of addresses contained in the Data Source.

Each printed document contains the same text but a different customer name and address.

Data Sources for Writer

To obtain access to data contained in a Data Source, it is necessary to first register the Data Source with OpenOffice.org.

OpenOffice.org can register as a Data Source the following database types:

- ODBC
- MySQL
- Adabas
- dBase
- ADO
- Text
- Spreadsheet
- Address Book

Registering a Data Source

To register a Data Source with OpenOffice.org:

- 1) On the Main Menu, select Tools > Data Sources. Figure 2 shows the window that appears.
- 2) In the Name field, type the name that OpenOffice.org uses to identify the Data Source.
- 3) Select the Database type.
- 4) Type the URL (Uniform Resource Locator) of the Data Source.
- 5) Click on the New Data Source button in the window.

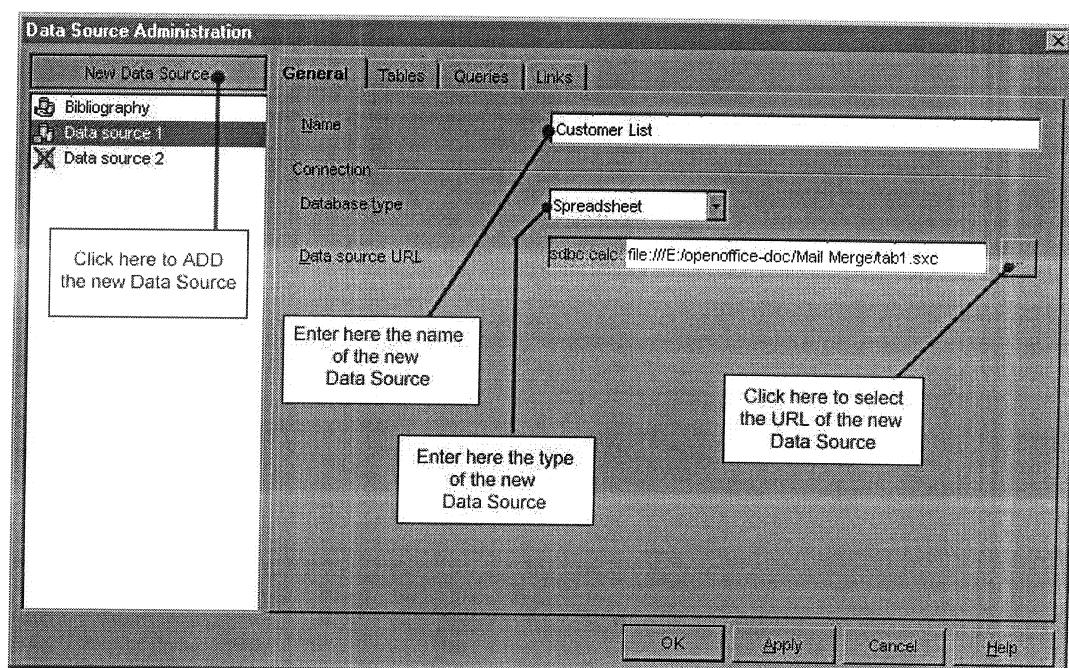


Figure 2. Registering a Data Source

Practical Example of Mail Merge

The best way to show how the Mail Merge function works is a practical example.

A mail order company organized a campaign to assign credit points to their customers according to the quantity of goods they buy during one year.

At the end of the year, they want to send a letter to each customer to show the total of credit points collected.

Sequence of operations to do

Step 1

Create a Data Source containing all the customers' data.

The easiest way to do that is to create a spreadsheet with OpenOffice.org Calc as shown in Figure 3.

	Name	2nd-name	Address	ZIP	Town	Ctry	Points	Telephone
1	Charlie	Brown	5 th Street 234	12442	Somewhere	USA	350	555-3453
2	Jean	Renoir	Rue La Fayette 32	56743	Paris	France	452	555-7862
3	Valentino	Rossi	Via Champion 46	10422	Tavullia	Italy	534	555-3423
4								

Figure 3. Creating a Data Source

The headings of the columns in the first row of the spreadsheet will be used as field names later.

The spreadsheet shown in Figure 3 is saved as: **tab1.sxw**.

Step 2

Register the spreadsheet to OpenOffice.org as described in "Registering a Data Source" on page 3.

Figure 4 shows that the spreadsheet is saved as **Data source 1**.

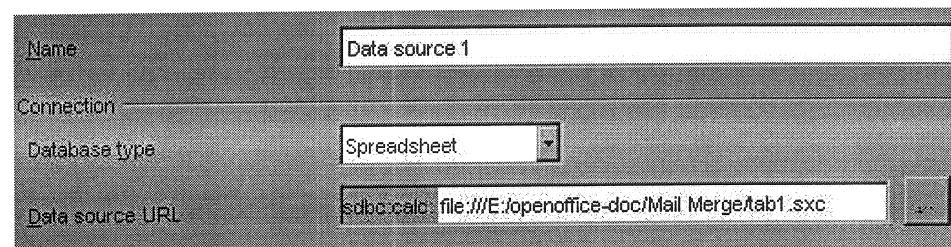


Figure 4. Registration of tab1.sxw

Data source 1 is a spreadsheet database containing the following fields:

Name – 2nd-name – Address – ZIP – Town – Ctry – Points – Telephone

After the registration, it is possible to use OpenOffice.org Writer to create documents that use the database as input.

Step 3

Use OpenOffice.org Writer to input the database fields in a document to be mailed to all (or a selection of) the names contained in Data Source 1.

In the top part of the document it is better to create a table with transparent borders to position correctly the text that is usually present in a letter (Date, Destination Address, etc.), and then the text as shown in Figure 5.

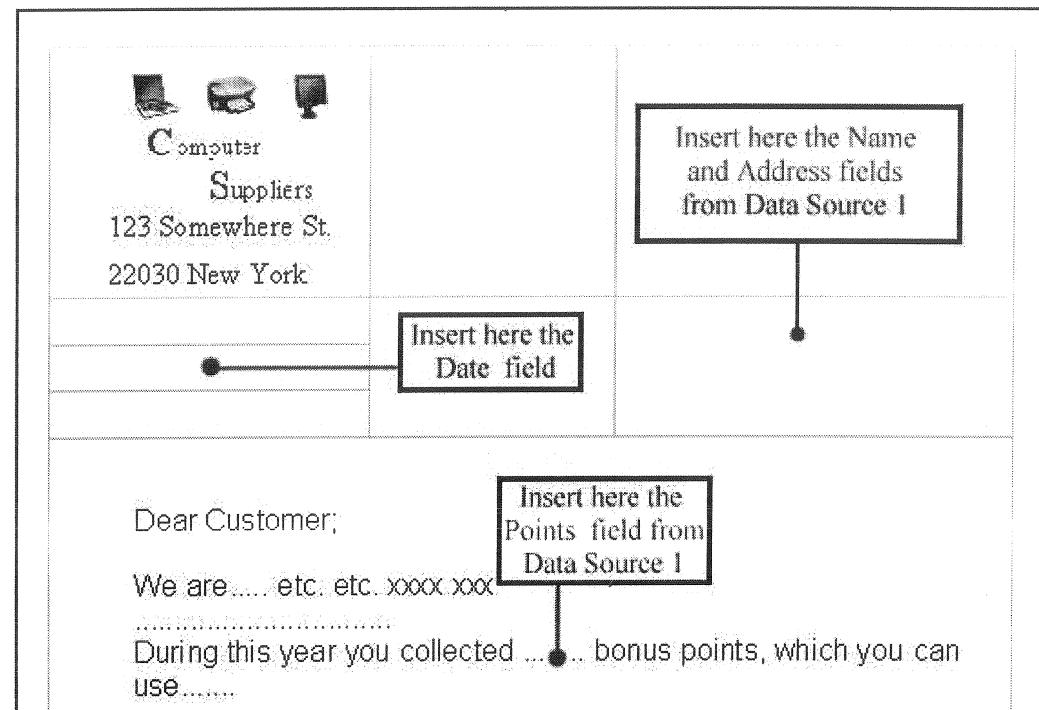


Figure 5. Example of using a table to position elements of a letter

Step 4

Insert the desired fields in the proper positions in the document.

To insert the current date:

- 1) Select the position where to insert the current Date.
- 2) On the main menu select: Insert>Fields>Date (see Figure 6).

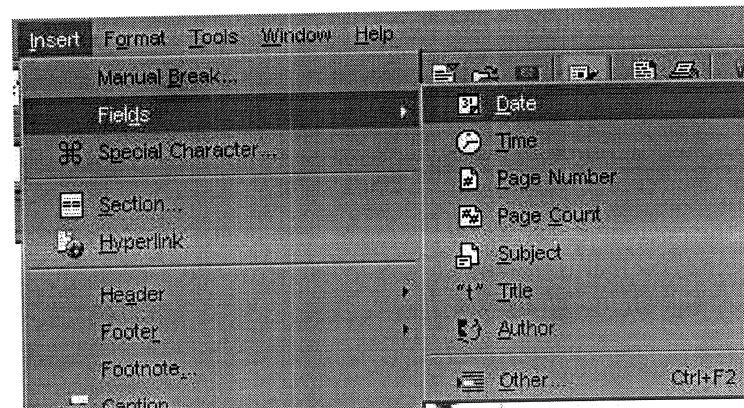


Figure 6. Inserting the current date

To insert the other fields:

- 1) Select the position to insert the Name in the proper cell of the table (refer to Figure 5 on page 5).
- 2) Press *Control+F2* (or select: **Insert > Fields > Other** on the Main Menu).
- 3) Double-click on “Data Source 1” and on “Sheet1” to display the window shown in Figure 7.

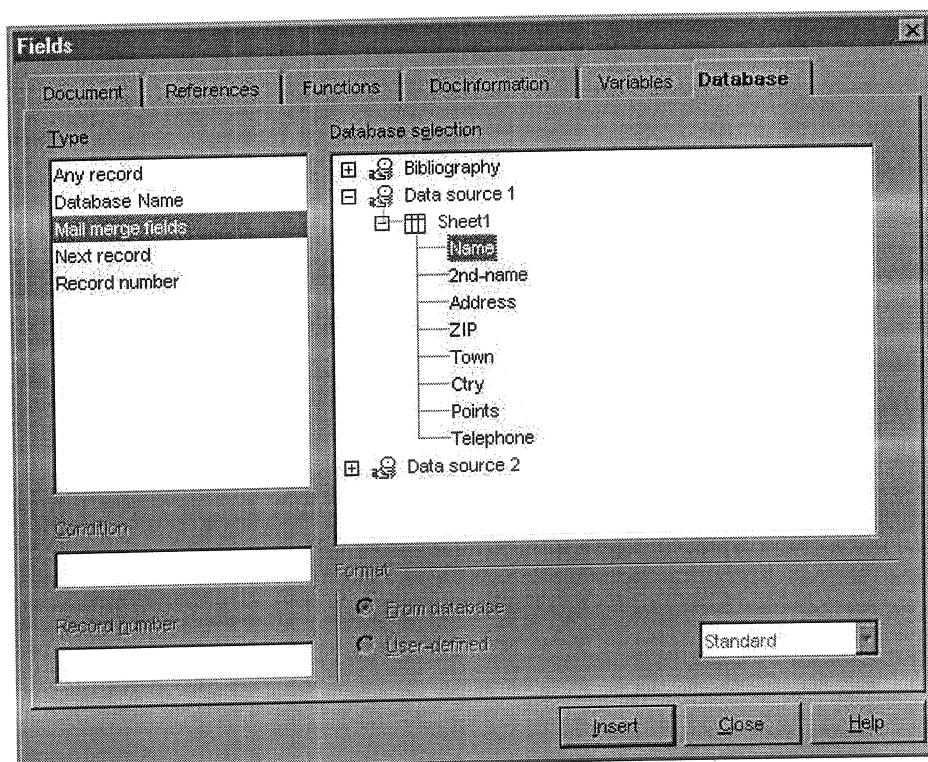


Figure 7. Display the fields in the database

- 4) Click on the “Name” field and then on the Insert button and press the Space bar.
- 5) Click on “2nd-name” and the Insert button and press Enter key to select a new line.
- 6) Click on “ZIP” and the Insert button and press the Space bar.
- 7) Click on “Address” and the Insert button and press Enter key to select a new line.
- 8) Click on “Town” and the Insert button and press the Space bar.
- 9) Type an open bracket “(”, click on “Ctry” and the Insert button, and type a close bracket “)”.
- 10) Select the point where to insert the Points field within the text, click on “Points” and the Insert button.

The result obtained so far is shown in Figure 8.

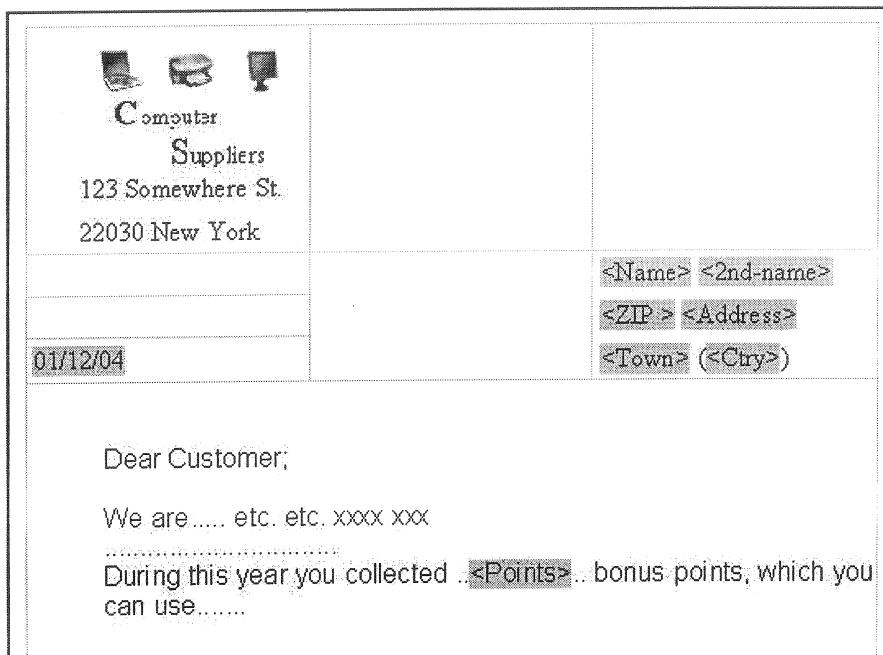


Figure 8. Name and address fields inserted in the proper position

Step 5

When all the required fields have been inserted, the document is ready for the Mail Merge function.

It is possible to start this function in two ways:

- Select Tools>Mail Merge on the Main Menu.
- Select File>Print on the Main Menu.

Figure 9 shows the messages that these methods produce.

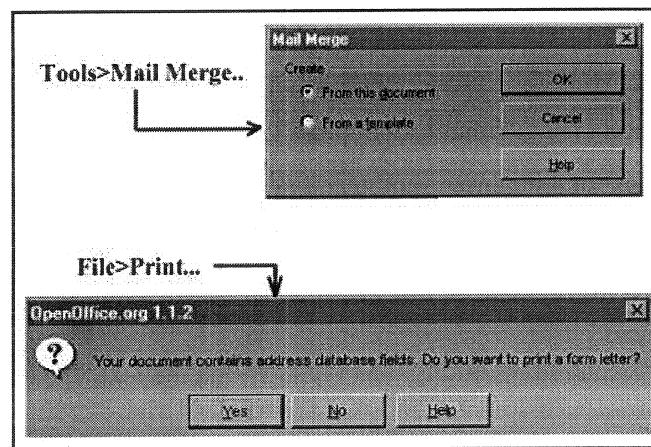


Figure 9. Messages produced when starting Mail Merge

Clicking on **OK** in the first message, or **Yes** in the second, displays the window shown in Figure 10.

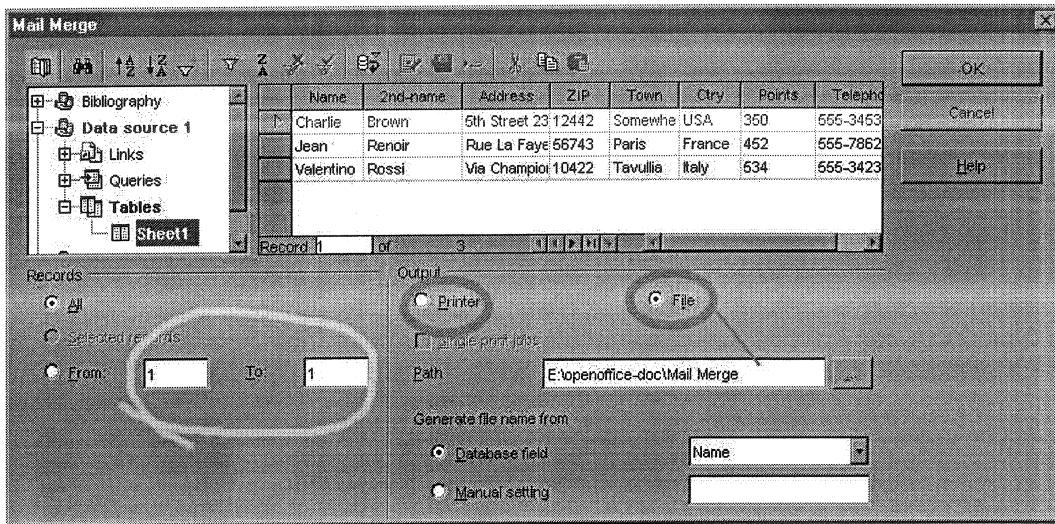


Figure 10. Mail Merge options

In this window you may specify which records to print:

- All
- Selected records (select the records first in the list of records)
- From record number to record number.

If the selected output is Printer, Mail Merge starts to print as many documents there are records selected.

If the selected output is File, you must specify a path to a folder, where Mail Merge will create one file for each selected record.

The file names depend on the Database field that you select. For example, in Figure 10 the selected field is Name.

If there are multiple fields with the same content, a number is added to the filename.

For example:

The Name in the first record of the Database is Charlie; therefore the filename generated automatically by Mail Merge is Charlie0.sxw.

If there were more records with the same name, the generated files would have been: Charlie0, Charlie1, Charlie2, and so on.

Figure 11 shows the printout of the file Charlie0.sxw produced by Mail Merge.

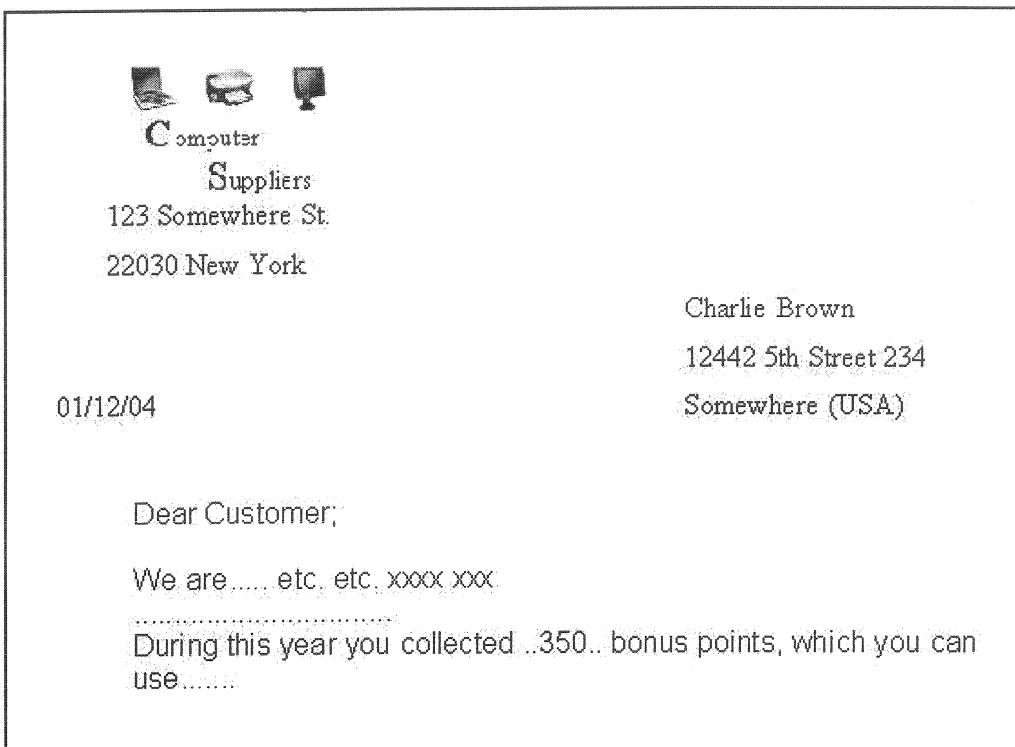


Figure 11. Printout of the first letter

❖ Protected Document:-

Follow these steps to modify a section that you have previously protected:

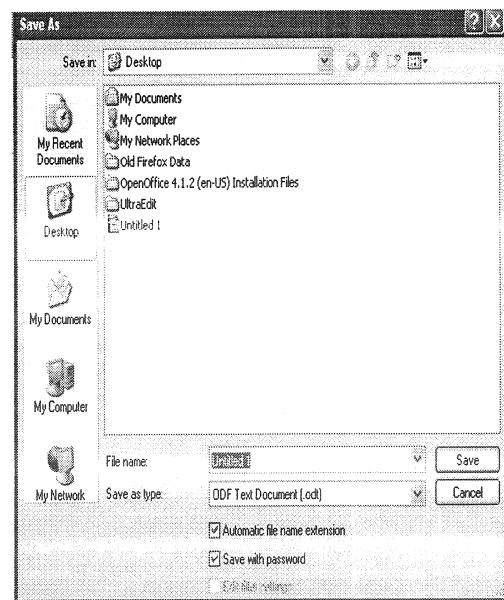
When you first save a file or use **File >Save As**, there is an option in the bottom left corner of the dialogue to "Save with password". You can save with a password when saving to the ODF format but not when saving as a MS Office format.

1. From the pull down menus, select **Format > Sections**.
2. Enter your password in the dialog that appears (only appears if password protected); Click **OK**.
3. Select the name of the desired section (if, applicable)
4. Click the **Remove** button.
5. Click **OK**.

How do I protect (lock) a section of text so that the content cannot be changed?

Follow these steps to protect a section of text:

- Write or otherwise insert the desired text
- Select the text to be protected
- From the pull down menus, choose **Insert > Section**
- Select the box next to **Protected**
- Give the section a name (or take the default name assigned)
- Click **Insert**
- You may also want to create a password on the section. This will keep anyone without the password from removing the protection set on the section.



To insert a password on a protected section:

- From the pull down menus, choose **Format > Sections**
- Select the name of the desired section (if, applicable)
- Click on the box next to **Password protected**
- In the dialog that appears, enter a password and confirm the password
- Click **OK** (in the password dialog)
- Click **OK** (in the format section dialog)

Follow these steps to modify a section that you have previously protected:

- From the pull down menus, select **Format > Sections**
- Enter your password in the dialog that appears (only appears if password protected); Click **OK**
- Select the name of the desired section (if, applicable)
- Click the **Remove** button
- Click **OK**
- Make the desired changes
- Follow steps in the "protect a section of text" instructions, above, to re-apply the section protection

Note: Once you put a password on a section, you will be prompted for that password before receiving **any** dialog that might have a chance to access that section of text.