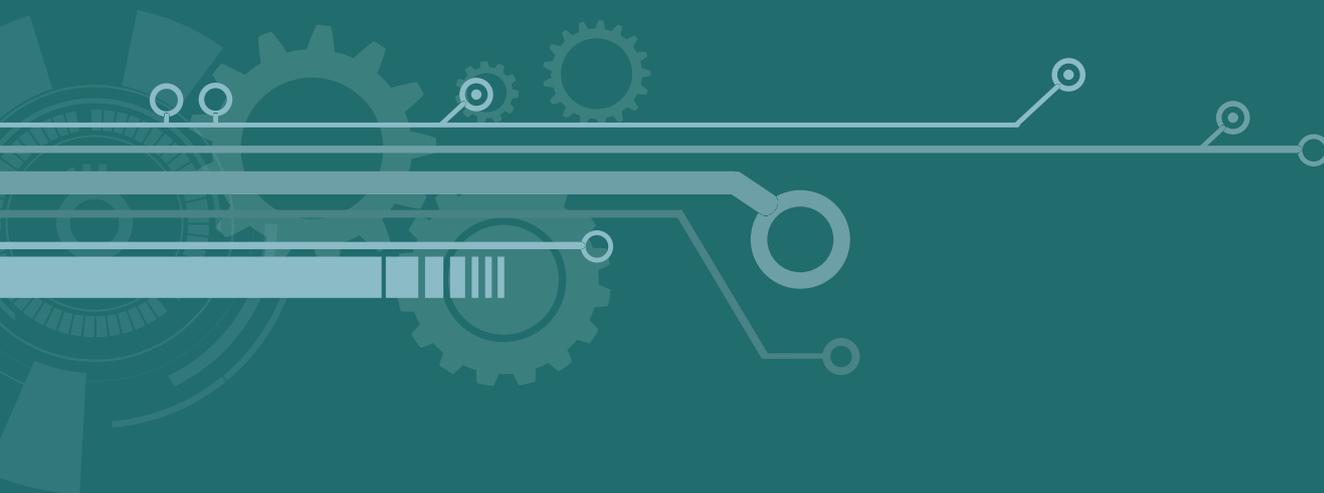


IT: spreadsheets



Office applications

Office automation



An **office application** is a type of computer program that automates office tasks and is used to create documents for work.

The most common office applications are:

- **Presentation program**

Used to present information with a slideshow.

- **Word processors**

Used to create and modify text documents.

- **Spreadsheets**

Used to treat numerical and alphanumerical data in a table.

Office suite

An **office suite** is the set of office applications created by the same programming team.

All the office applications of an office suite have common elements. The menus and options are organized in the same way. Microsoft Office, IBM Lotus SmartSuite and iWork are proprietary software suites, whereas OpenOffice.org is free software.

Spreadsheets

Spreadsheets are organized in *workbooks*.

We make a workbook when we want to interpret and analyze data with tables and graphs.

Applications

The operating system that operates your computer determines which office suites can be used and therefore, which applications you can use.

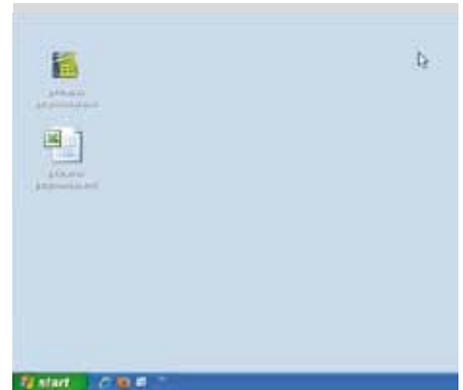
Application	Office suite	Operating system
OpenOffice.org Calc	OpenOffice.org	GNU Linux Microsoft Windows Mac OS X
Microsoft Excel	Microsoft Office	Microsoft Windows Mac OS X
Numbers	iWork	Mac OS X
Lotus 1–2–3	IBM Lotus SmartSuite	Microsoft Windows Mac OS X

Compatibility

In general, workbooks cannot be opened and edited with just any spreadsheet program.

For example, Microsoft Excel works by default with documents with the extension *xls*, and cannot work with documents with the extension *ods* (except for versions after 2007, which work with documents with the extension *xlsx* and can open the extension *ods*). However, OpenOffice.org works by defect with the extension *ods* but can also work with documents with the extensions *xlsx* and *xls*.

OpenOffice.org applications save documents in *odf* (Open Document Format). This format is approved by ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission), two organizations which promote compatibility between products from different developers.



Workbooks

Organizing documents

- **Sheet**

Table in the form of a grid, which contains information.

A workbook may have several sheets. By default there are three, but you can add or remove some.

- **Row**

Group of adjacent horizontal cells.

They are numbered.

- **Column**

Group of adjacent vertical cells.

They are referred to by using letters from A to Z, then AA to AZ, and so on.

- **Cell**

Element that contains data, either numerical or alphanumerical.

They are found at the intersection of a row and a column and are referred to with the column letter followed by the row number.

Openoffice.org calc

Installation

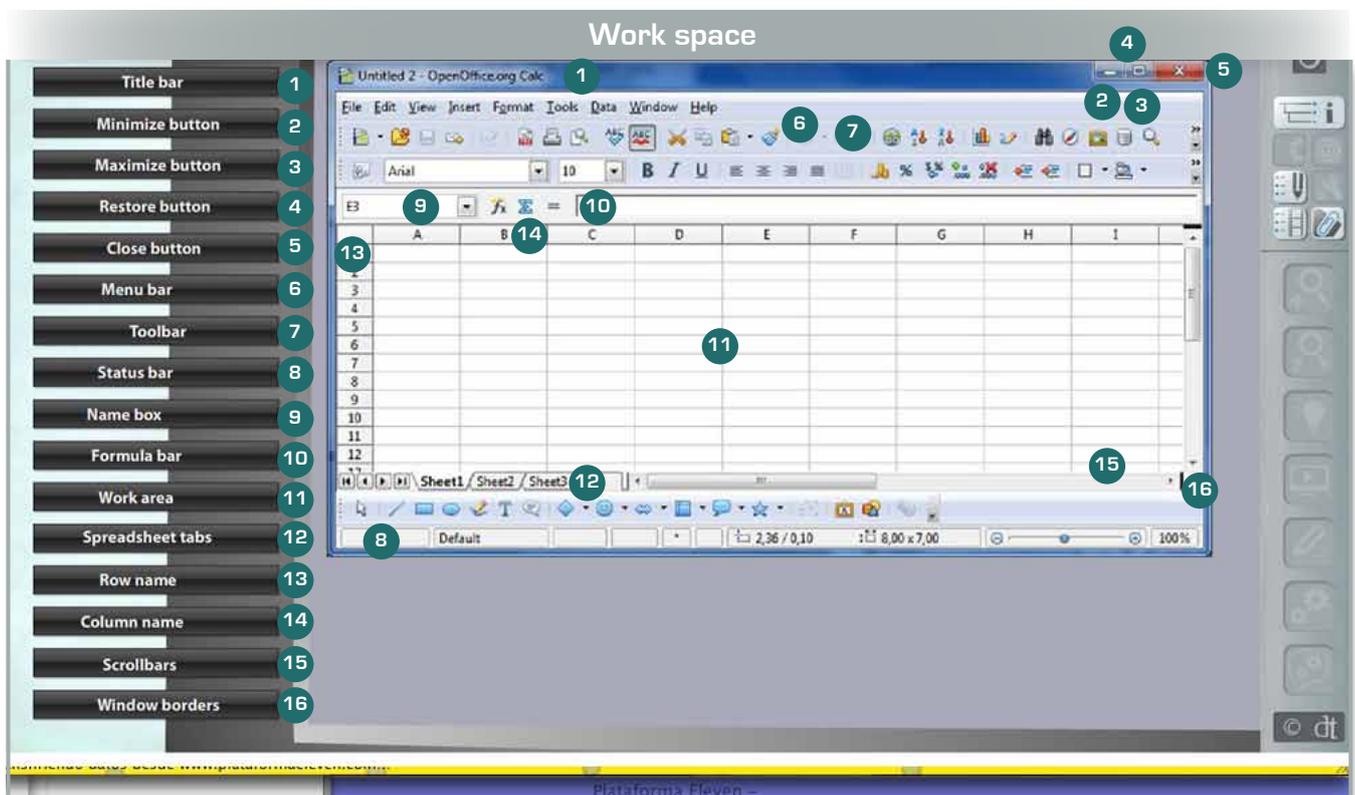
In order to use any office suite you must first install it. OpenOffice.org suite is installed in the following steps:

1. Go to <http://www.openoffice.org> and download the installer of the latest version and in the language you prefer.
2. Run the installer by clicking on its icon.
3. Choose the route where you want to save the office suite files.
4. Enter the requested data.
5. Choose the type of installation.

Execution

Once OpenOffice.org is installed, we can use it.

Calc can be opened by clicking the link in the Start menu, by double-clicking on the book icon, or double-clicking the shortcut to the office suite that the installer places on the desktop.



Work space

- **Title bar**
Shows the name of the document that is open and the name of the application (OpenOffice.org Calc).
- **Minimize button**
Reduces the window and removes it from the desktop space.
- **Maximize button**
Opens the window to fill the whole desktop space.
- **Restore button**
Reduces the size of the window when it is maximized.

- **Close button**
Closes the window.
- **Menu bar**
Used to access all the functions and settings of the application.
- **Tool bar**
Rapidly executes the functions that are most commonly-used.
- **Status bar**
Shows the status and settings of the application.
- **Name box**
Shows the name of the active cell.
- **Formula bar**
Shows the location and content of the active cell.
- **Work area**
Contains the spreadsheet that is being edited.
- **Spreadsheet tabs**
Shows the different spreadsheets in the document.
- **Row name**
Shows the names of the rows in the table.
- **Column name**
Shows the names of the columns in the table.
- **Scrollbars**
Used to view areas of the work area that are outside the window borders.
There are two types of scrollbars: horizontal and vertical. Both are used by clicking and dragging.
- **Window borders**
Used to change the size of the window when it does not cover the full desktop space.

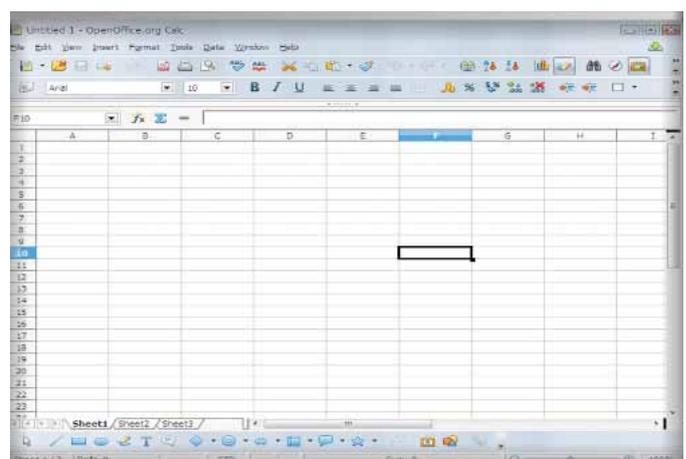
Work area

The work area shows part of the document that is being edited: the active sheet, the data, and the active cell.

The active cell is easily identifiable because its borders are thicker than the rest of the cells, and it is possible to control its position with the name box. When it is in editing mode, it is possible to find its position due to a vertical, blinking bar which indicates the point where data is inserted or modified.

Actions

- **Select active cell**
 - With the mouse
Left click on any cell in the active area.



- With the keyboard

Using the edit keys:

- <←>: Moves the active cell to the adjacent one on the left.
- <↑>: Moves the active cell to the adjacent one above.
- <↓>: Moves the active cell to the adjacent one below.
- <→>: Moves the active cell to the adjacent one on the right.
- <Ctrl+Home>: Moves the active cell to the first cell (A1).
- <Ctrl+End>: Moves the active cell to the last cell (AMJ65536).

Non-adjacent cells can be selected in two ways:



Select the cell and double click.

- With the keyboard

Select the cell and press <F2>.

- **Manage sheets**

- With the mouse

Right click on the sheet tabs. A menu appears with options to insert, delete, rename, etc.

There are also scroll buttons to the left of the tabs, which are used to access sheets that are not within view.

- With the keyboard

Use the edit keys:

- <Ctrl+PageDown>: to go to the next sheets.
- <Ctrl+PageUp>: to go to the previous sheets.

Formulas

Formulas can be entered into the cells as well, just like any other data.

Activate edit mode by selecting the cell, start with the = symbol and finish by pressing <Enter>.

A formula may consist of more than one function.

A formula can be copied into adjacent cells without using editing tools. Simply place the mouse over the lower right corner of the cell, then click and drag across the cells where you want to copy.

Standard menu bar

This section has a list of exercises, together with the route that should be followed through the spreadsheet menus, which will solve an example.

It is advisable that you only use it as a reference.

- With the mouse and the keyboard
Click on the cells to be selected while pressing <Control>.

- With the keyboard
Activate the Add selection mode by pressing <Shift+F8>. Then press <Shift> + the position keys to select cells, and just the position keys for the cells in between.

- **Insert and modify data**

- With the mouse

Instructions:

1. Install a copy of the spreadsheet on your computer.
2. Try to find the solution to the example by using this copy.
3. Check these notes only if you are unable to complete the example.

Introduction

- ► Options followed by ► open a submenu with options of the same type.
- ... Options followed by ... open a dialog box with options of the same type.
- **Grayed-out** Options written in light gray are not available at the time the menu is opened. Both rows and columns, selected either individually or as a group, also have a *Context menu* which opens by double clicking their header.

File

- **Open a new document.**
File | New | Spreadsheet
- **Open the document holiday_getaways.ods which is in the folder Trips on the Desktop.**
File | Open. Select **Desktop** in the dialog box, and then the corresponding file.
- **Reopen the last document you had open.**
File | Recent documents
- **Save the active document.**
File | Save
- **Save the active document with extension xls on the Desktop.**
File | Save as. Select the new format from among the options available in the corresponding drop-down menu of the dialog box.
- **Save the active document in PDF format on the Desktop.**
File | Export in PDF format
- **Send the document with the proposals from the application to the email address elisa.ogd@yahoo.es.**
File | Send | Document as email
- **Open a template to make a bill for a group of vacationers.**
File | New | Templates and documents
- **See a preview of the active document.**
File | Preview. Select *zoom* among the options from the drop-down menu that appears in the upper bar.
- **Print two copies of the bill for the trip.**
File | Print
- **Close the program.**
File | Exit

8763	2435	876	457	9689
908	234	6789	2678	789
89	283	472	5692	852
8	3759	3648	489	926
6622	65	15	115	
2345	67	899	978	
234	6789	2678	789	
62	6522	655	688	
3759	3648	489	926	
5552	851	54	233	
34	321	351	3138	
13	472	6692	867	

Edit

- **Go back one step in the actions you have taken in the active document.**
Edit | Undo
- **Go one step forward in the history of actions you have taken.**
Edit | Redo
- **Select the Amsterdam city row, cut it, and paste it at the end of the table.**
Edit | Cut, and then *Edit | Paste*
- **Select the row of the city the vacationers liked the most, and copy it at the end of the table.**
Edit | Copy, and then *Edit | Paste*
- **Select all of the active sheet.**
Edit | Select all
- **Search for cells with hotels that cost €350.**
Edit | Find and Replace, followed by the appropriate options in the dialog box that opens.
- **Search for “granada” and replace it with “Granada.”**
Edit | Find and Replace, followed by the appropriate options in the dialog box that opens.

View

- **Work with the document in Normal view.**
View | Normal
- **View the document to check how the page breaks look.**
View | Page Break Preview
- **Activate the insert cell bar.**
View | Tool bar | Insert cell
- **Hide the formula bar.**
View | Formula bar
- **Hide the row and column name bars.**
View | Column and row names

3.6.5. Insert

- **Add a page break below the row of the active cell.**
Insert | Manual break | Row break
- **Add a row to the table.**
Insert | Rows
- **Add a column to the table.**
Insert | Columns
- **Add a sheet to the active document.**
Insert | Sheet
- **Add the euro symbol in parentheses in the price cell.**
Insert | Symbols
- **Link the cell of one of the cities to a web page with its street map.**
Insert | Hyperlink
- **Add a comment in the cell of the cheapest hotel.**
Insert | Comments

- **Add a picture of one of the proposed hotels.**

Insert | Picture | From file

Function

Functions represent one or more operations in a compact way by abbreviating the formula writing.

- **Write -28 in a cell and put its absolute value in the adjacent cell.**

Insert | Function. Select *ABS* from the list of functions in the dialog box that opens.

- **Write 18, 12, 3, and 6 in different cells and put their greatest common divisor in another cell.**

Insert | Function. Select *GCD* from the list of functions in the dialog box that opens.

- **Write -19, 7, -1, 57, and 11 in different cells and put the largest value in another cell.**

Insert | Function. Select *MAX* from the list of functions in the dialog box that opens.

- **Write 2, -9, 45, -37, and 0 in different cells and put the smallest value in another cell.**

Insert | Function. Select *MIN* from the list of functions in the dialog box that opens.

- **Write 258 and 596 in different cells and put their product in another cell.**

Insert | Function. Select *PRODUCT* from the list of functions in the dialog box that opens.

- **Write 1542, 623, and 24 in different cells and put their sum in another cell.**

Insert | Function. Select *SUM* from the list of functions in the dialog box that opens.



Graphs and Charts

- **Put the average price of each type of hotel in three different cells and with these values create a vertical bar graph.**

Insert | Graph. Select *Column* from the list of types of graphs in the dialog box that opens.

- **Change the graph to horizontal bars.**

Insert | Chart Type. Select *Bar* from the list of types of graphs in the dialog box that opens.

- **Make the bars of the graph green.**

Insert | Selection format, followed by the appropriate options from the dialog box that opens.

- **Give the graph the title "Vacations."**

Insert | Title, followed by the appropriate options from the dialog box that opens.

- **Label the axes of the graph "Hotel type" and "Prices."**

Insert | Chart Type, followed by the appropriate options from the dialog box that opens.

Format

- **Write the title "Prices" with Arial Rounded MT Bold, 18, and green background color.**

Format | Cells, followed by the appropriate options from the dialog box that opens.

- **Hide the Brussels row from the table.**

Format | Row | Hide

- **Select the city column and give it a width of 7 cm.**

Format | Column | Width

- **Hide the sheets of the document that you are not using and give the others meaningful names.**

Format | Sheet | Hide and Format | Sheet | Rename

- **Select all the cells of a row and merge them into one single cell.**

Format | Combine cells

- **Select the boxes of the city column and make them titles, and make the boxes of the hotel type row into level 1 titles.**

Format | Style and format

- **Center the content in all the cells.**

Format | Alignment | Centered

- **Insert a picture on another sheet of the document and flip it vertically.**

Insert | Picture | From file and Format | Flip | Flip vertically

Categories

- **Write 215.28 in a cell and categorize it as a number.**

Format | Cells. Select *Number* from the list of categories in the dialog box that opens.

- **Write 21 in a cell and categorize it as a percentage.**

Format | Cells. Select *Percentage* from the list of categories in the dialog box that opens.

- **Write today's date in a cell and categorize it as a date.**

Format | Cells. Select *Date* from the list of categories in the dialog box that opens.

- **Write 4.5 in a cell and categorize it as a fraction.**

Format | Cells. Select *Percentage* from the list of categories in the dialog box that opens.

- **Write 0.00005 in a cell and categorize it as a scientific notation.**

Format | Cells. Select *Scientific* from the list of categories in the dialog box that opens.

- **Write your name in a cell and categorize it as a text.**

Format | Cells. Select *Text* from the list of categories in the dialog box that opens.

Tools

- **Search for the cells that have been used as references to calculate the total price of the trip in the bill.**

Tools | Detective | Trace precedents

- **Search for the cells in which the price of the hotel has been used.**

Tools | Detective | Trace dependents

Data

- **Put the three-star hotel column in order from the cheapest to the most expensive.**

Data | Sort, followed by the appropriate options from the dialog box that opens.

- **Select only the hotels which cost less than €500 from the column of two-star hotels.**

Data | Filter | Standard Filter. Over each cell on the header row, an arrow appears which opens a list of values used.

- **Create a summary table of the active document.**

Data | Data Pilot | Start, followed by the appropriate options from the dialog box that opens.

Window

- **Divide the table into two regions, so that each area of the sheet has scrollbars.**

Window | Divide

- **Divide the table into four regions, so that the hotel type row and the city column are always visible.**

Window | Freeze

Toolbar

Many of the functions seen in the previous section have a shortcut on the toolbar. You should memorize the icons which correspond to each function and the location of the drop-down menus in the graphical interface. Neither of these can be efficiently reproduced in writing. Therefore, it is imperative that you study the animation on our web version.

