

Overview of microsoft excel components and work features

[Technology](#), [Computer](#)



Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. It has some great feature such as calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Application. The file of a Microsoft Excel is called work book. We perform our task on the work sheet of a file/work book. A file may consist of several work sheets and a work sheet has 256 columns and 65536 rows. We indicate the columns by A, B, C...AA, AB...BA, BB, BC...IV etc. On the other hand, we indicate the rows by numbering 1 to 65536.

Microsoft Excel has the basic features of all spreadsheets. It used a grid of cells arranged in numbered rows and letter named columns to organize data manipulations like arithmetic operations. It can solve various problems such as statistical, engineering and financial etc. Excel can display data as line graphs, histograms and charts, and also can display three dimensional graph. It has data sectioning ability to views its dependencies on various factors for different perspectives. It allows the user to employ a wide variety of numerical methods. Example- it can solve differential equations of mathematical physics, and then reporting the results back to the spreadsheet. It also has some interactive features allowing user interfaces to completely hide the spreadsheet from the user, so the spreadsheet presents itself as a so-called application, or decision support system (DSS), via a custom-designed user interface, for example, a stock analyzer, or in general, as a design tool that asks the user questions and provides answers and reports. In a more elaborate realization, an Excel application can automatically poll external databases and measuring instruments.

Macro programming

The Windows version of Excel supports programming through Microsoft's Visual Basic for Application (VBA), which is a dialect of Visual Basic.

Programming with VBA allows spreadsheet manipulation that is awkward or impossible with standard spreadsheet techniques. Programmers may write code directly using the Visual Basic Editor (VBE), which includes a window for writing code, debugging code, and code module organization environment.

The user can implement numerical methods as well as automating tasks such as formatting or data organization in VBA and guide the calculation using any desired intermediate results reported back to the spreadsheet.

VBA was removed from Mac Excel 2008, as the developers did not believe that a timely release would allow porting the VBA engine natively to Mac OS X. VBA was restored in the next version, Mac Excel 2011, although the build lacks support for ActiveX objects, impacting some high level developer tools.

A common and easy way to generate VBA code is by using the Macro Recorder. The Macro Recorder records actions of the user and generates VBA code in the form of a macro. These actions can then be repeated automatically by running the macro. The macros can also be linked to different trigger types like keyboard shortcuts, a command button or a graphic. The actions in the macro can be executed from these trigger types or from the generic toolbar options. The VBA code of the macro can also be edited in the VBE. Certain features such as loop functions and screen prompt by their own properties, and some graphical display items, cannot be recorded but must be entered into the VBA module directly by the

programmer. Advanced users can employ user prompts to create an interactive program, or react to events such as sheets being loaded or changed.

Charts

Excel supports charts, graphs, or histograms generated from specified groups of cells. The generated graphic component can either be embedded within the current sheet, or added as a separate object.

These displays are dynamically updated if the content of cells change. For example, suppose that the important design requirements are displayed visually; then, in response to a user's change in trial values for parameters, the curves describing the design change shape, and their points of intersection shift, assisting the selection of the best design.

Numeric precision

Despite the use of 15-figure precision, Excel can display many more figures (up to thirty) upon user request. But the displayed figures are not those actually used in its computations, and so, for example, the difference of two numbers may differ from the difference of their displayed values. Although such departures are usually beyond the 15th decimal, exceptions do occur, especially for very large or very small numbers. Serious errors can occur if decisions are made based upon automated comparisons of numbers (for example, using the Excel if function), as equality of two numbers can be unpredictable.