

Intermediate Excel



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A range is a defined area of a worksheet in a group of contiguous cells. The range address is the cell address of the top left cell and bottom right cell, separated by a colon. For example the range A1..B3 includes the cells A1, A2, A3, B1, B2, and B3.

Functions

A function is a formula pre-programmed into Excel that performs a special calculation automatically. There are hundreds of functions in Excel, but each one does one specific calculation. For example, the SUM function can be used with a range of cells to add all values in the range specified. There are functions for statistical analysis, financial analysis, database operations, logical analysis, and math & trig.

A function is input into the cell where the answer is to appear, using the following format: an equal sign, because it's a formula, the function name (case doesn't matter), followed by an open parenthesis, then the argument (this could be a number, cell address, or range), followed by a closed parenthesis. =Function Name(Argument)

Sum - Adds all the values in a range of cells. =SUM (1st cell address of range..last cell address of range)

Count - Counts all the non-blank cells in a range. =COUNT (1st cell address of range..last cell address of range)

Maximum - Indicates the highest value in a range of cells. =MAX (1st cell address of range..last cell address of range)

Minimum - Indicates the lowest value in a range of cells. =MIN (1st cell address of range..last cell address of range)

Average - Averages values in a range of cells. =AVERAGE (1st cell address of range..last cell address of range)

Absolute Cell Addresses

Relative Cell Reference - Cell addresses in a formula are relative reference; they refer to the locations of related data. When a formula is copied, cell addresses automatically adjust to reference data in their new location.

Absolute Cell Reference - A cell address in a formula that does not change when the formula is copied to another location in the spreadsheet. An Absolute Cell Reference is used when a constant cell or factor is necessary in all the formulas. It does not change relative to its position when you copy it.

Making a Cell Address Absolute - Use \$ (dollar sign) to make an address absolute. For example, to make the address A1 in a formula absolute, it would be changed to \$A\$1.

Logical Functions

IF Statements - IF uses a conditional statement to test data, the results being determined by the whether the statement is true or false. A function is input into the cell where the answer is to appear.

=Function Name(Argument)

The format for an IF statement is: =IF(Condition,X,Y)

If the condition is true, the result of the statement is X; if the condition is false, the result of the statement is Y. Important: if the results of an IF statement, X or Y, are to be labels, they must be enclosed in quotation marks ("").

The following conditional operators can be used in IF statements:

=	Equal	<=	Less than or equal to
>	Greater than	>=	Greater than or equal to
<	Less than	<>	Not equal to

IF statements may also be used with or, and, and not for complex conditions.

Freezing Titles

In a spreadsheet that contains more rows or columns of data than can fit on one page or on the screen, titles, or headings, can be frozen, or held, in place to keep them in view at the left or top edge of the worksheet. This can be used when viewing or printing different parts of a large worksheet.

Freeze Horizontal Panes. Click on Column A in the row below the titles to be frozen. Click View tab on the ribbon. Click Freeze Panes then Freeze Top Row.

Freeze Vertical Panes. Click on Row 1 in the column to the right of the titles to be frozen. Click View tab on the ribbon. Click Freeze Panes then Freeze First Column.

Unfreeze Panes. Click View tab on the ribbon. Click Freeze Panes then Unfreeze Panes.

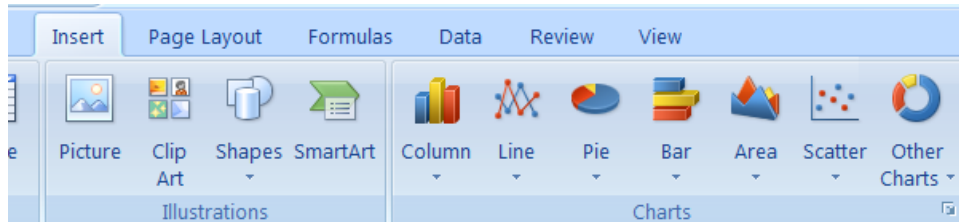
Charts and Graphs

Charts enable users to present and compare data in a graphical format, making analysis quick and efficient.

Selecting Chart Data - The first step in charting data is to select labels and values that are to be plotted.

Chart Types - There are fourteen chart types in Excel with which data can be presented: Column, Bar, Line, Pie, XY(Scatter), Area, Doughnut, Radar, Surface, Bubble, Stock, Cylinder, Cone, and Pyramid.

Creating a Chart - Select the data to be plotted. Click the Insert Tab and choose chart type from the Chart Group.



Macros

A macro is a set of actions that Excel automatically performs to accomplish a task and stores for reuse at a later time. It is a way to automate a set of instructions that you need to perform often, such as the entry of commands, formats, formulas and/or labels. For example, a macro can be created that will automatically insert a four-row header in a worksheet, type and format a heading, and alphabetically sort the worksheet data.

These actions perform the task quickly and efficiently. The actions are recorded and then stored for reuse at a later time.

Macros are used to automate complex or repetitive tasks; instead of performing these tasks manually, you run the macro and let it do all the work for you. An entire list of commands can be performed with a mouse click or several keystrokes.

Record a macro

Recording a macro involves the following steps: Plan the keystrokes or commands needed to complete the task. Select the cell where the recording will begin. On the Developer Tab, in the Code Group, click Record Macro.

The Record Macro dialog box appears. Assign a Macro name. In the Macro name box, enter a name for the macro. The first character of the macro name must be a letter. Other characters can be letters, numbers, or underscore characters. Spaces are not allowed in a macro name; an underscore character works well as a word separator.

Perform the steps to complete the task or type data to record.

Stop the recording of the macro when you are done by clicking the Stop Recording button in the Code Group on the Developer Tab.

Run a Macro

When you play back your macro recording, or run a macro, Excel carries out the instructions in the macro program. Once a macro has been created and named, you can run (invoke) the macro by completing one of the following procedures: Press the shortcut key, if you assigned one, or, select Macros and then select the macro from the list.

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