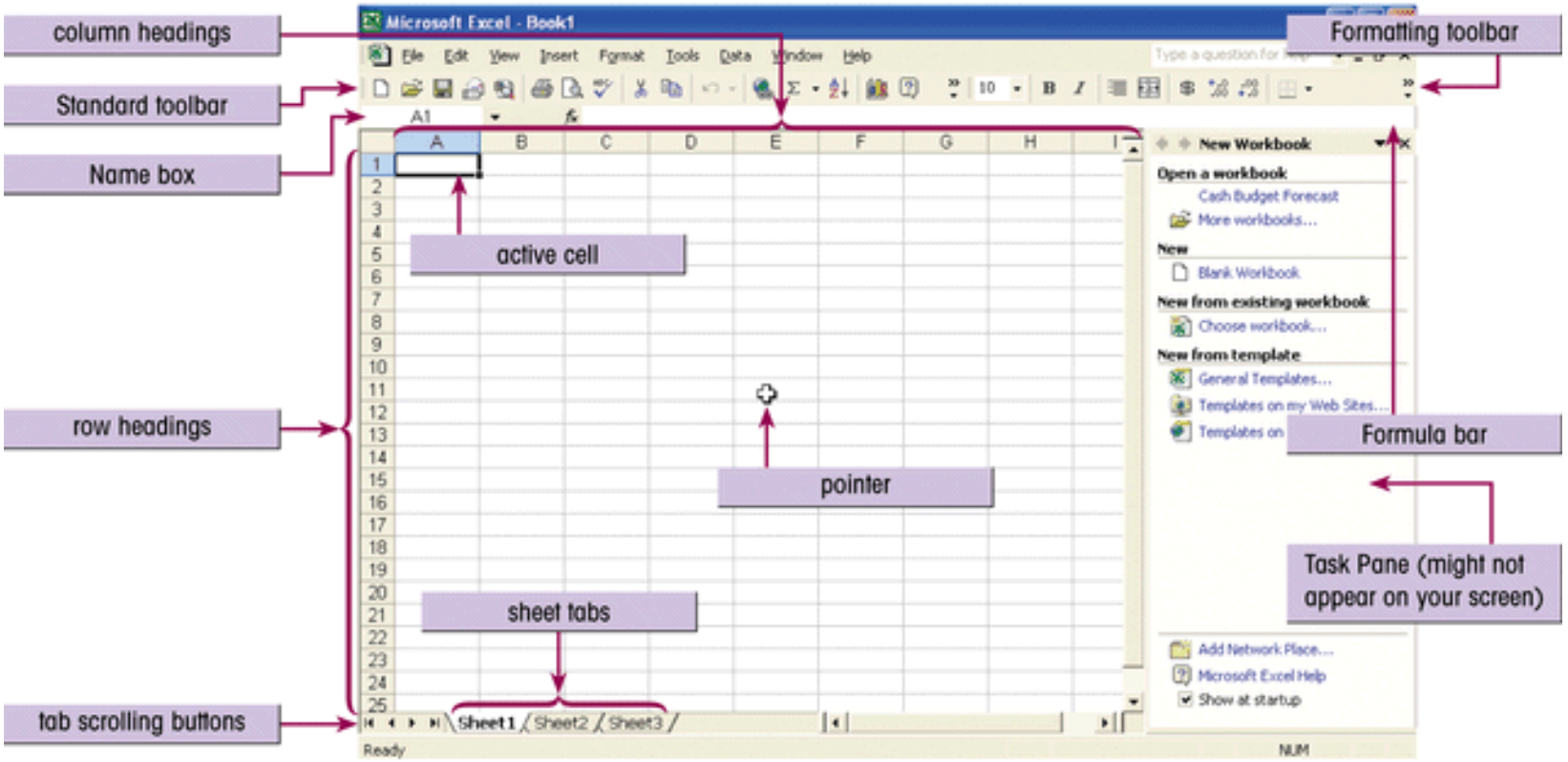
Microsoft Excel

Identify Excel components



Descriptions of Excel components

FEATURE	DESCRIPTION
Active cell	The **active cell** is the cell in which you are currently working. A dark border outlining the cell identifies the active cell.
Column headings	**Column headings** list the columns in the worksheet. Columns are listed alphabetically from A to IV (a total of 256 possible columns).
Formula bar	The **Formula bar**, which is located immediately below the toolbars, displays the contents of the active cell. As you type or edit data, the changes appear in the Formula bar.
Name box	The **Name box** displays the location of the currently active cell in the workbook window.
Pointer	The **pointer** indicates the current location of your mouse pointer. The pointer changes shape to reflect the type of task you can perform at a particular location in the Excel window.
Row headings	**Row headings** list the rows in the worksheet. Rows are numbered consecutively from 1 up to 65,536.
Sheet tabs	Each worksheet in the workbook has a **sheet tab** that identifies the sheet's name. To move between worksheets, click the appropriate sheet tab.
Task Pane	The **Task Pane** appears when you initially start Excel, and it displays a list of commonly used tasks. The Task Pane will disappear once you open a workbook.
Tab scrolling buttons	The **tab scrolling buttons** are used to move between worksheets in the workbook.
Toolbars	**Toolbars** provide quick access to the most commonly used Excel menu commands. The **Standard toolbar** contains buttons for Excel commands such as Save and Open. The **Formatting toolbar** contains buttons used to format the appearance of the workbook. Additional toolbars are available.

Excel's arithmetic operators

Arithmetic operations, symbols and description of their use.

ARITHMETIC OPERATION	ARITHMETIC OPERATOR	EXAMPLE	DESCRIPTION
Addition	+	=10+A5 =B1+B2+B3	Adds 10 to the value in cell A5 Adds the values of cells B1, B2, and B3
Subtraction	–	=C9–B2 =1–D2	Subtracts the value in B2 from the value in cell C9 Subtracts the value in cell D2 from 1
Multiplication	*	=C9*B9 =E5*0.06	Multiplies the value in cell C9 by the value in cell B9 Multiplies the value in cell E5 by 0.06
Division	/	=C9/B9 =D15/12	Divides the value in cell C9 by the value in cell B9 Divides the value in cell D15 by 12
Exponentiation	^	=B5^3 =3^B5	Raises the value in cell B5 to the third power Raises 3 to the power specified in cell B5

Know the order of precedence

The order of precedence rules must be considered when creating expressions. The chart below illustrates Excel's order of precedence and shows sample expressions and the result of each expression.

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Exponentiation	^	=B5^3 =3^B5	Raises the value in cell B5 to the third power Raise 3 to the power specified in cell B5

Work with the Insert Function button

- Excel supplies more than 350 functions organized into 10 categories:
  - Database, Date and Time, Engineering, Financial, Information, Logical, Lookup, Math, Text and Data, and Statistical functions
- You can use the Insert Function button on the Formula bar to select from a list of functions.
- A series of dialog boxes will assist you in filling in the arguments of the function and this process also enforces the use of proper syntax.

Math and Statistical functions

This chart shows some commonly used math and statistical functions and a description of what they do.

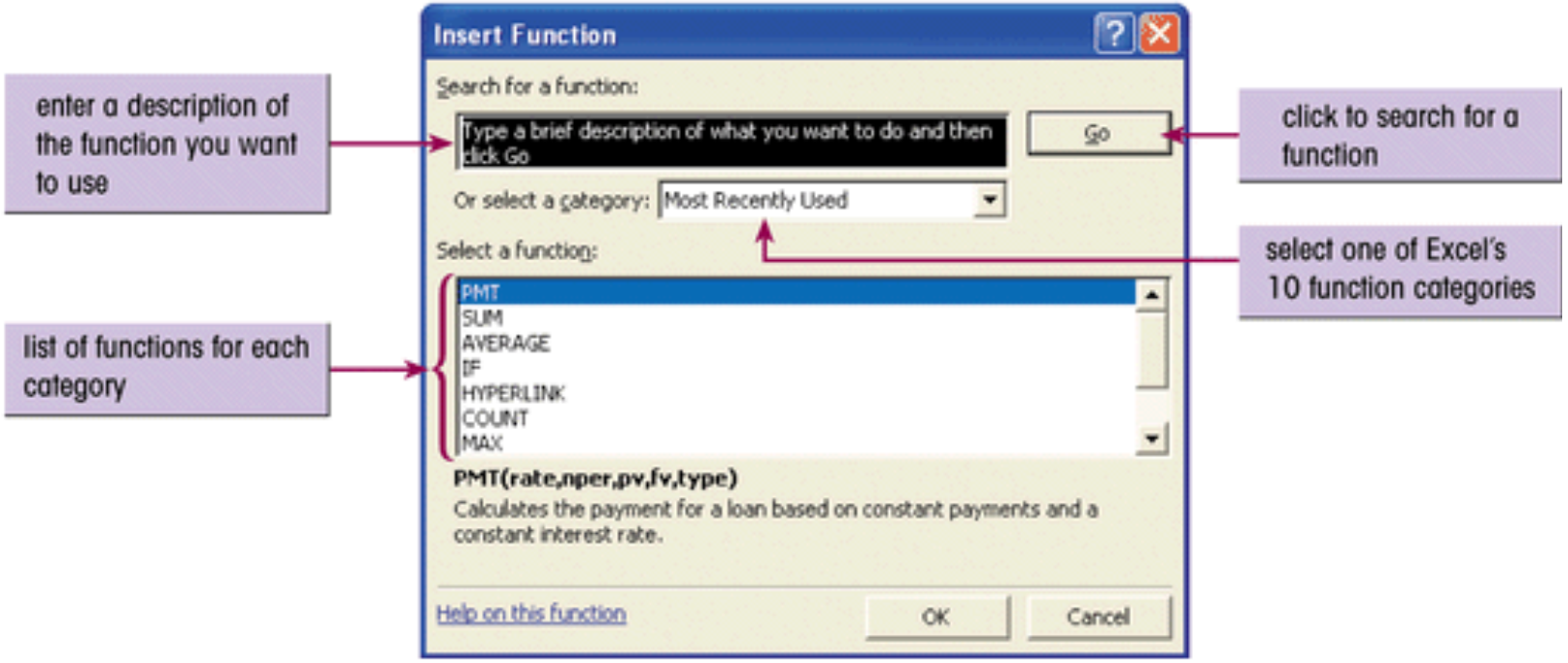
FUNCTION	DESCRIPTION
AVERAGE(*values*)	Calculates the average value in a set of numbers, where *values* is either a cell reference or a collection of cell references separated by commas
COUNT(*values*)	Counts the number of cells containing numbers, where *values* is either a cell reference or a range of cell references separated by commas
MAX(*values*)	Calculates the largest value in a set of numbers, where *values* is either a cell reference or a range of cell references separated by commas
MIN(*values*)	Calculates the smallest value in a set of numbers, where *values* is either a cell reference or a range of cell references separated by commas
ROUND(*number, num_digits*)	Rounds a *number* to a specified number of digits, indicated by the *num_digits* arguments
SUM(*numbers*)	Calculates the sum of a collection of numbers, where *numbers* is either a cell or a range reference or a series of numbers separated by commas

Define functions, and functions within functions

- The SUM function is a very commonly used math function in Excel.
- A basic formula example to add up a small number of cells is =A1+A2+A3+A4, but that method would be cumbersome if there were 100 cells to add up.
- Use Excel's SUM function to total the values in a range of cells like this: SUM(A1:A100).
- You can also use functions within functions. Consider the expression =ROUND(AVERAGE(A1:A100),1).
  - This expression would first compute the average of all the values from cell A1 through A100 and then round that result to 1 digit to the right of the decimal point

Examine the Insert Function dialog box

This dialog box appears when you click the Insert Function button. It can assist you in defining your function.



Create column and pie charts in Excel

- Charts, or graphs, provide visual representations of the workbook data.
- A chart may be embedded in an existing worksheet, or can be created on a separate chart sheet, with its own tab in the workbook.
- You can use Excel's Chart Wizard to quickly and easily create charts.
- The Chart Wizard is a series of dialog boxes that prompt you for information about the chart you want to generate

Create a chart using the Chart Wizard

- To create a chart with the Chart Wizard:
  - Select the data you want to chart, which will be your data source
  - Click the Chart Wizard button on the standard toolbar
  - In the first step of the chart wizard, select the chart type and sub-type
  - In the second step of the Chart Wizard, make any additions or modifications to the chart's data source
  - In the third step, make any modifications to the chart's appearance
  - In the fourth and final step, specify the location for the chart, then click the OK button

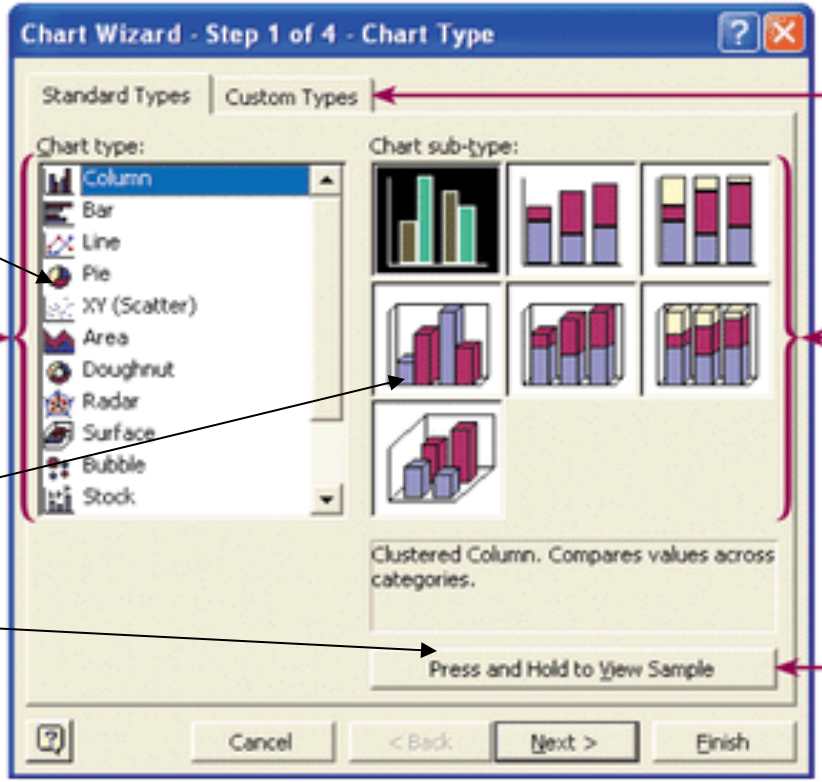
Chart Wizard dialog box 1

Choose a chart type and view examples of that type in dialog box 1.

Choose which type of chart you want in this pane.

Select a sub-type of that chart in this pane.

Click and hold this button down to see a preview of your chart.



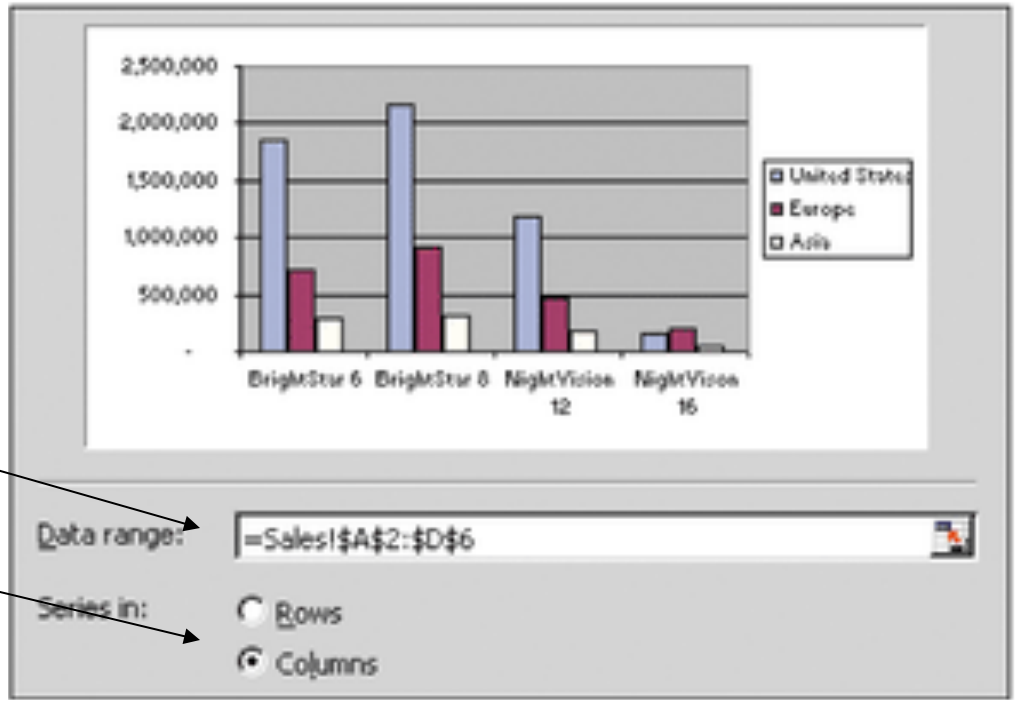
Choosing a data series

- You can alter the data source during step 2 of the Chart Wizard and also choose whether to organize the data source by rows or by columns.
- The data source is organized into a collection of data series.
  - A data series consists of data values, which are plotted on the chart's vertical, or Y-axis
  - The data series' category values, or X values, are on the horizontal axis, called the X-axis
- A chart can have several data series all plotted against a common set of category values.

Chart Wizard dialog box 2

During the second step of the Chart Wizard, you specify the data to be displayed in the chart, which is also known as the chart's data source.

Specify the cell range and whether the data series is in rows or columns.



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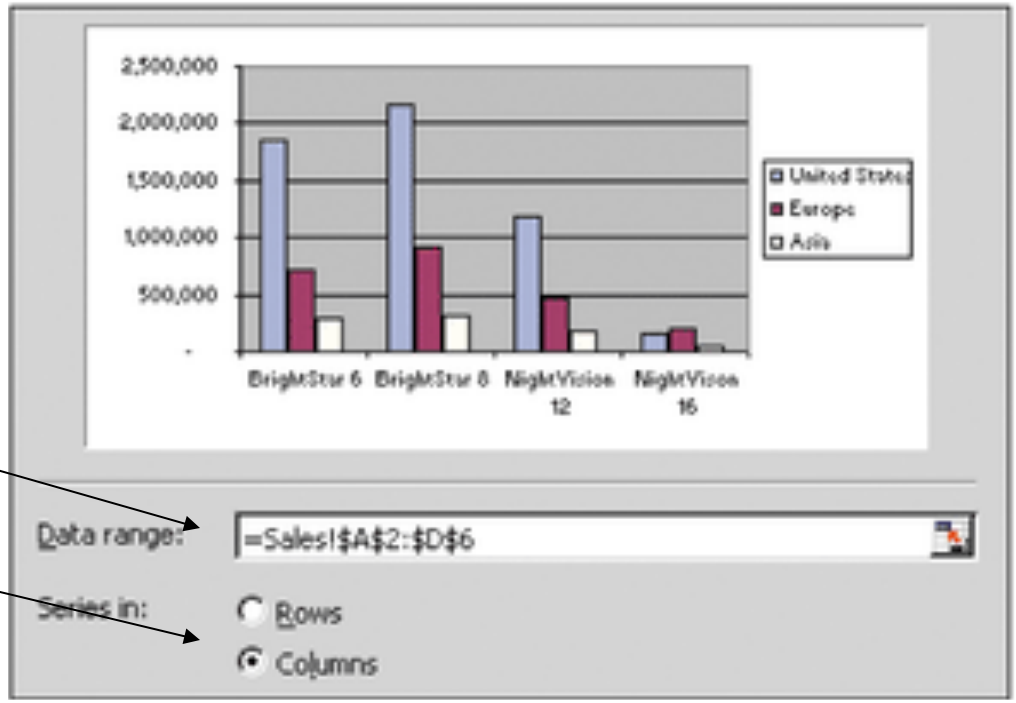

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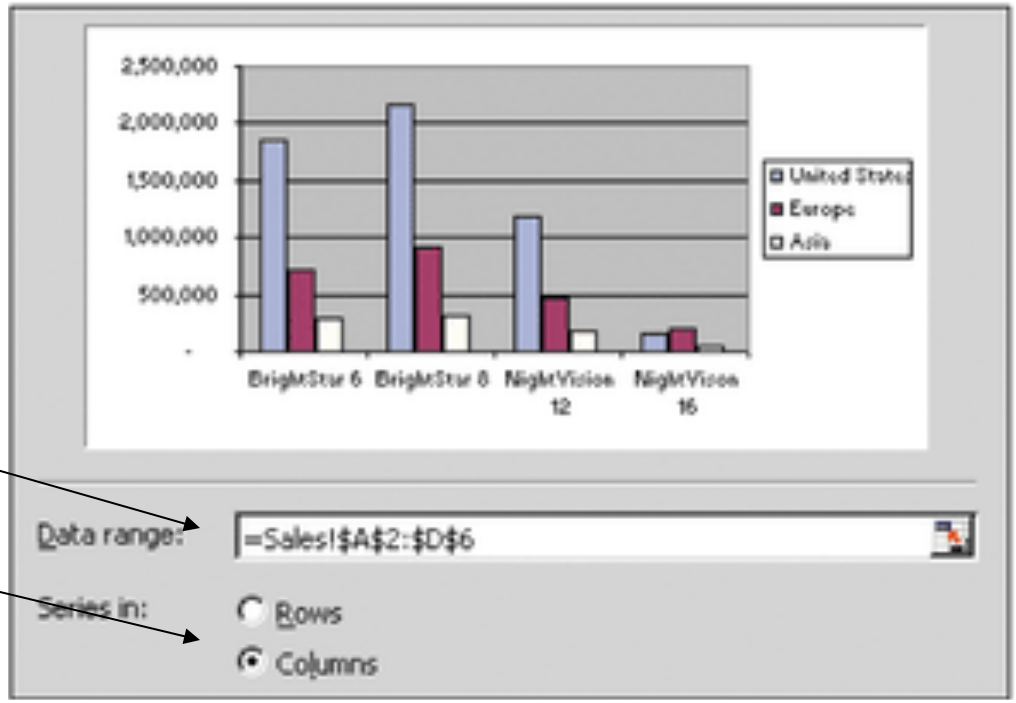

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