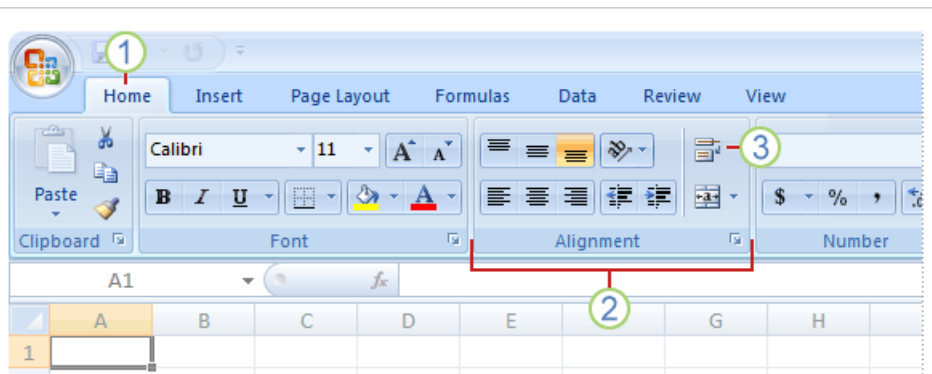


1. Introduction to Microsoft Excel

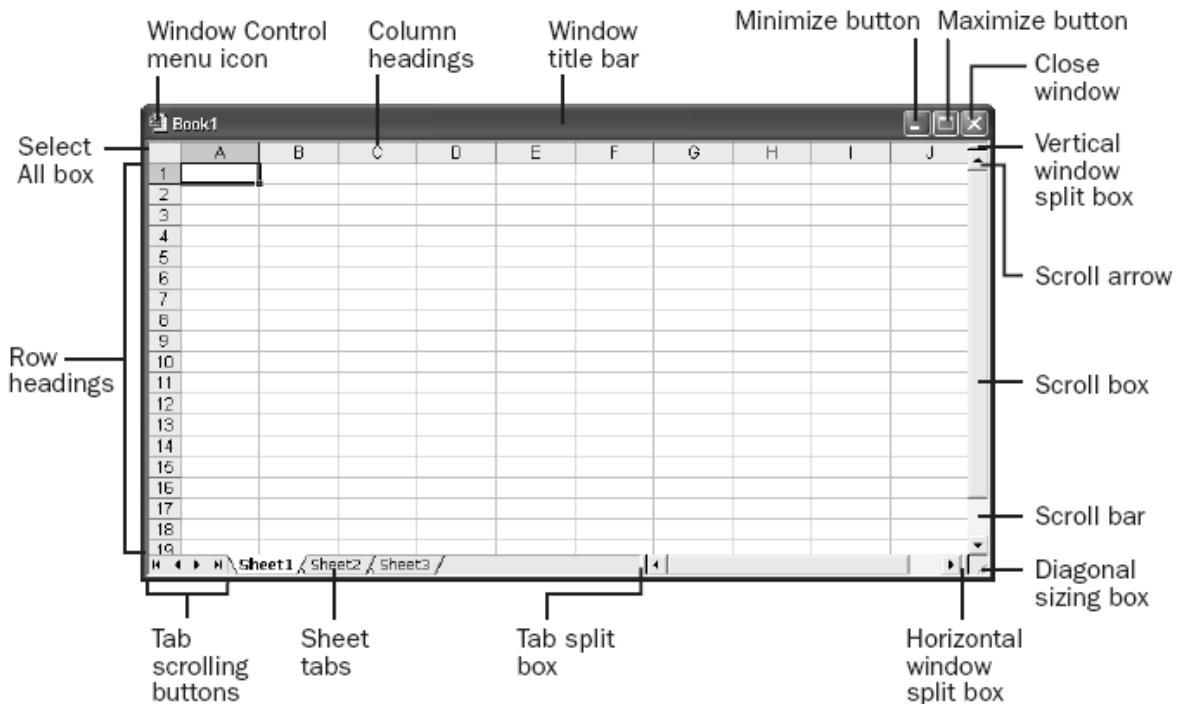
A spreadsheet is an online version of an accountant's worksheet, which can automatically do most of the calculating for you. You can do budgets, analyze data, or generate sorted lists.

When you open Microsoft Excel 2010, you'll see the familiar worksheets you're accustomed to. The old look of Excel menus and buttons has been replaced with this new Ribbon, with tabs you click to get to commands. There are three basic components to the Ribbon:

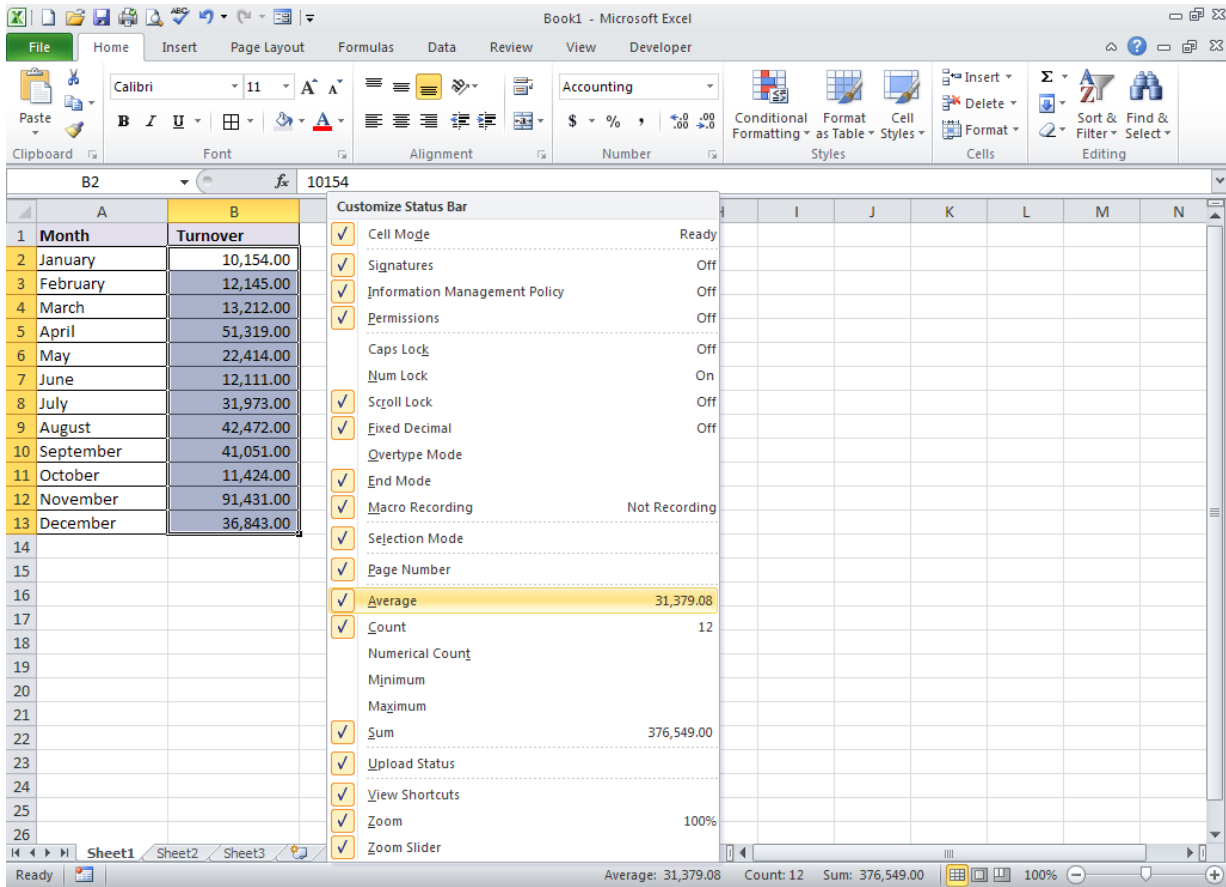
1. **Tabs:** There are seven of them across the top. Each represents core tasks you do in Excel.
2. **Groups:** Each tab has groups that show related items together.
3. **Commands:** A command is a button, a box to enter information, or a menu.



A new workbook, shown floating originally consists of three individual worksheets.



The status bar displays information about what’s happening in your workspace. For example, most of the time, Excel displays the word Ready at the left end of the status bar.



2. Worksheet Editing Techniques

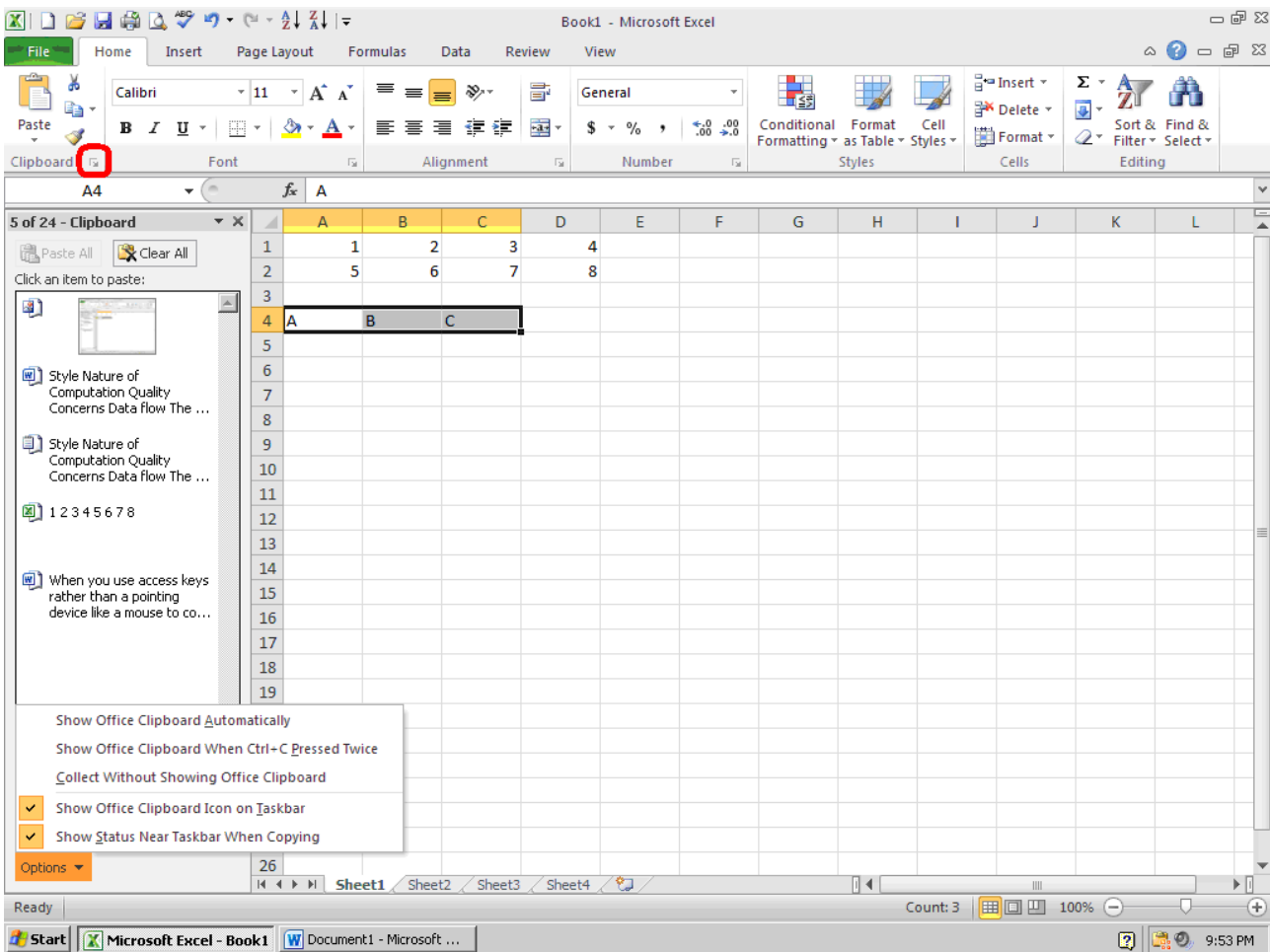
2.1 Copying, Cutting, and Pasting

2.1.1 Collecting Multiple Items on the Clipboard

Using the collect and copy feature, you can Copy (or Cut) up to 24 separate items and then paste them where you want them (one at a time or all at once). You do this by using the **Office Clipboard Task Pane**.

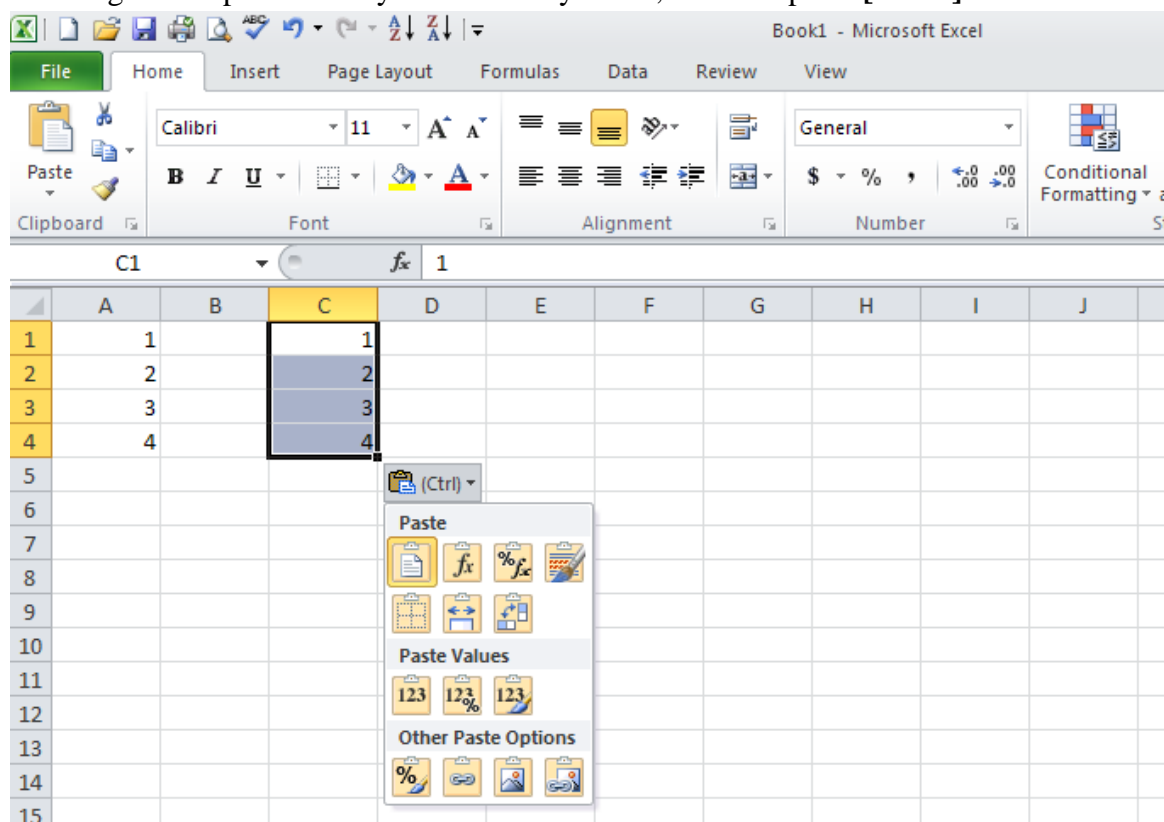
You can change the normal collect and copy behavior so that Excel collects items every time you copy or cut, regardless of whether the **Clipboard Task Pane** is present. To do so, click the **Options** button at the bottom of the **Clipboard Task Pane** and choose **Collect Without Showing Office Clipboard**.

Although collect and copy is useful for editing tasks, it can also be a great tool for gathering information. Copy items such as names or addresses from various locations in the order you want them to appear. Then click the **Paste All** button on the **Clipboard Task Pane** to paste all the items you have collected, in the order collected, into a single column.



2.1.2 Using the Paste Options Smart Tag

This smart tag appears whenever and wherever you paste, offering action options applicable after pasting – a sort of “Smart Paste Special”. The best part is that you can try each action in turn. Keep selecting Paste options until you like what you see, and then press **[Enter]**.



Keep Source Formatting:

Retains formatting. This is the default action. If the other options don't work for you, you can always come back to this one before you press Enter

Match Destination Formatting:

Copies formatted data into a differently formatted table without having to redo the formatting

Values and Number Formatting:

Pastes values without losing number formats

Keep Source Column Widths:

Retains column widths. This option is like choosing Keep Source Formatting with the added action of “pasting” the column width

Formatting Only:

Leaves the contents of the cells alone and transfers the formatting. This works in the same way as the Format Painter button on the Standard toolbar.

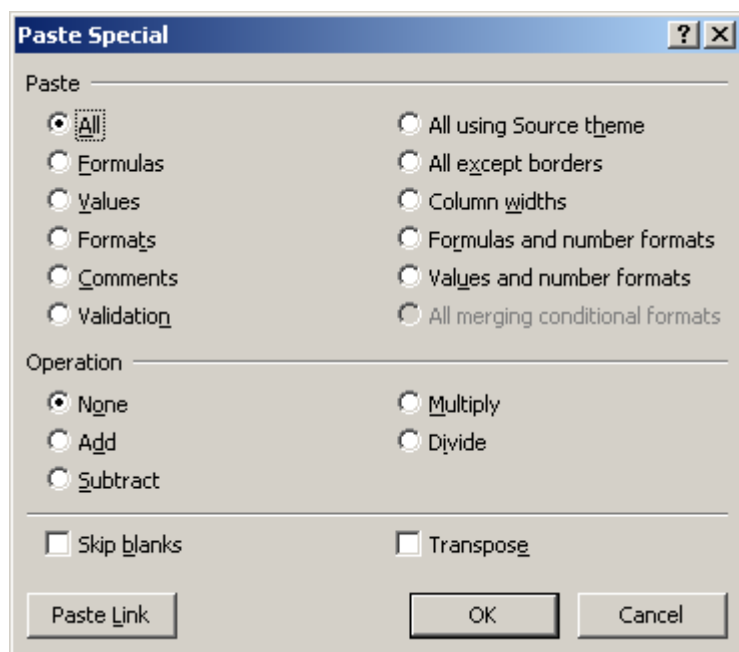
Link Cells:

Instead of pasting the contents of the cut or copied cells, pastes a reference to the source cells, ignoring the source formatting

2.1.3 Paste Special

2.1.3.1 Pasting Selectively Using Paste Special

Paste Special is quite possibly the most useful power-editing feature of all. There are many ways to use this feature, but probably the most popular is copying the value in a cell without copying the formatting or the underlying formula.

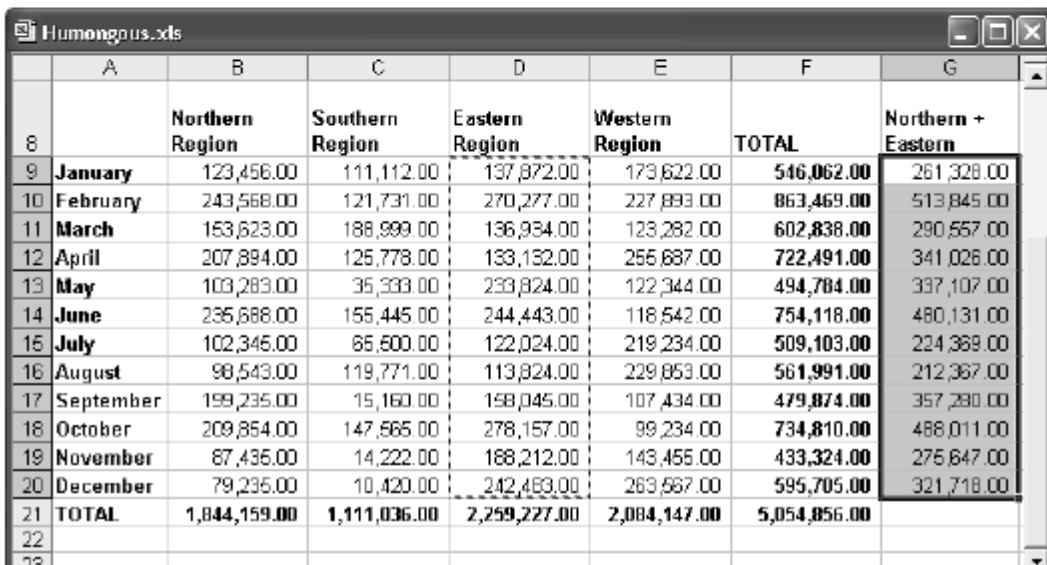
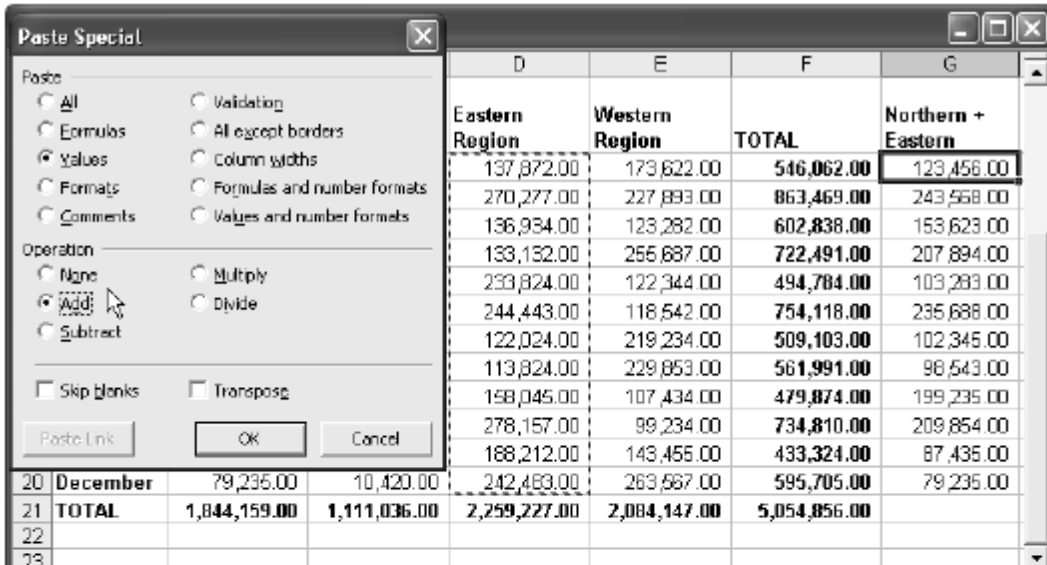


All:	Predictably, pastes all aspects of the selected cell, which is the same as simply using the Paste command
Formulas:	Transfers only the formulas from the cells in the copy range to the cells in the paste range, adjusting relative references
Values:	Pastes static text, numeric values, or only the displayed values resulting from formulas.
Formats:	Transfers only the formats in the copy range to the paste range
Comments:	Transfers only comments attached to selected cells.
Validation:	Pastes only the Data Validation settings that you have applied to the selected cells.
All except borders:	Transfers data without disturbing the border formats you spent so much time applying
Column widths:	Transfers only column widths, which is handy when trying to make a sheet look consistent for presentation
Formulas and number formats:	Transfers only formulas and number formats, which is handy when copying formulas to previously formatted areas. Usually, you'll want the same number formats applied to formulas you copy, wherever they happen to go
Values and number formats:	Transfers resulting values and number formats

2.1.3.2 Pasting Using Math Operators

You use the options in the **Operation** section of the **Paste Special** dialog box to mathematically combine the contents of the copy area with the contents of the paste area. When you select any option other than **None**, Excel uses the specified operator to combine the copy and paste ranges.

*For example, we want to get a total of the Northern and Eastern regions. First we copied the Northern Region figures to column G, and then we copied the Eastern Region numbers in column D and chose **Paste Special**. We clicked the **Values** and **Add** options in the **Paste Special** dialog box, and after clicking [OK].*



The other options in the **Operation** section of the **Paste Special** dialog box combine the contents of the copy and paste ranges using the appropriate operators. Just remember that the **Subtract** option subtracts the copy range from the paste range, and the **Divide** option divides the contents of the paste range by the contents of the copy range. Also note that nothing happens if the copy range contains text entries and you use **Paste Special** with an **Operation** option.

2.1.3.3 Pasting Links

The [**Paste Link**] button in the **Paste Special** dialog box is a handy way to create references to cells or ranges. When you click the [**Paste Link**] button, Excel enters an absolute reference to the copied cell in the new location. *For example, if you copy cell A3, and then select cell B5, choose **Paste Special**, and click the [**Paste Link**] button, the formula =A\$3 is entered into cell B5.*

If you copy a range of cells, the Paste Link button enters a similar formula for each cell in the copied range to the same sized range in the new location.

2.1.3.4 Skipping Blank Cells

The **Paste Special** dialog box contains a **Skip Blanks** option that you use when you want Excel to ignore any blank cells in the copy range. Generally, if your copy range contains blank cells, Excel pastes those blank cells over the corresponding cells in the paste area. As a result, empty cells in the copy range overwrite the contents, formats, and comments in corresponding cells of the paste area. When you select **Skip Blanks**, the corresponding cells in the paste area are unaffected.

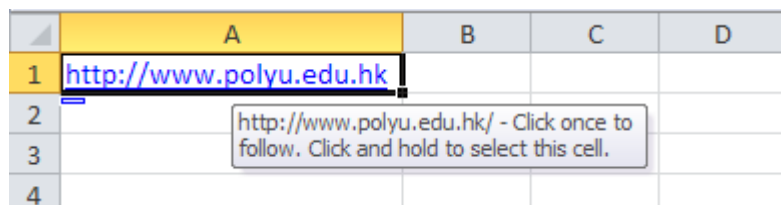
2.1.3.5 Transposing Entries

Transpose helps you to reorient the contents of the copied range when you paste (entries in rows appear in columns, and entries in columns appear in rows). *For example, we needed to use the column headings in Row 3 of the top sheet to create identical row headings in column A of the bottom sheet. Accomplishing this was as simple as copying cells B3:G3 in the top sheet, clicking cell A4 in the bottom sheet, and using **Paste Special** with **Transpose** selected.*

	A	B	C	D	E	Tl
1		Sunday	Monday	Tuesday	Wednesday	
2	morning	2	3	6	4	
3	afternoon	6	4	1	7	
4	night	8	6	3	4	
5						
6						
7						
8		morning	afternoon	night		
9	Sunday	2	6	8		
10	Monday	3	4	6		
11	Tuesday	6	1	3		
12	Wednesday	4	7	4		
13	Thursday	7	5	5		
14	Friday	8	7	6		
15	Saturday	2	1	7		
16						
17						

2.1.4 Pasting Hyperlinks

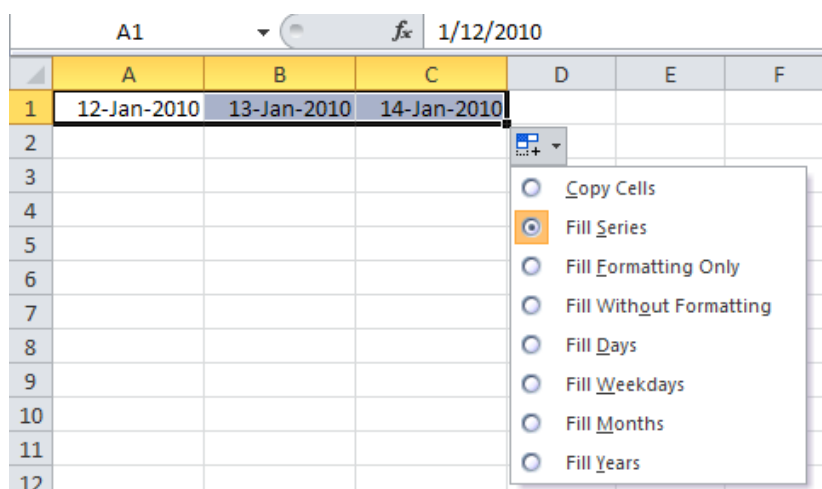
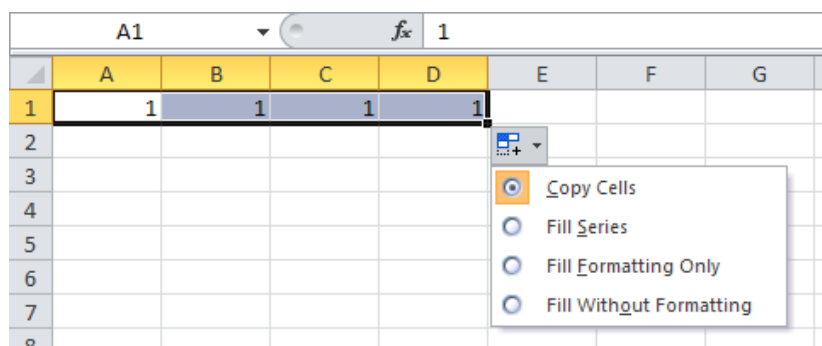
The **Paste as Hyperlink** paste a hyperlink to the copied data in the location you specify. When you create a hyperlink, it's as if Excel draws an invisible box that acts like a button when you click it, and places it over the selected cell.



2.2 Filling and Creating Data Series

Uses of the fill handle include quickly and easily filling cells and creating data series using the incredibly useful AutoFill feature.

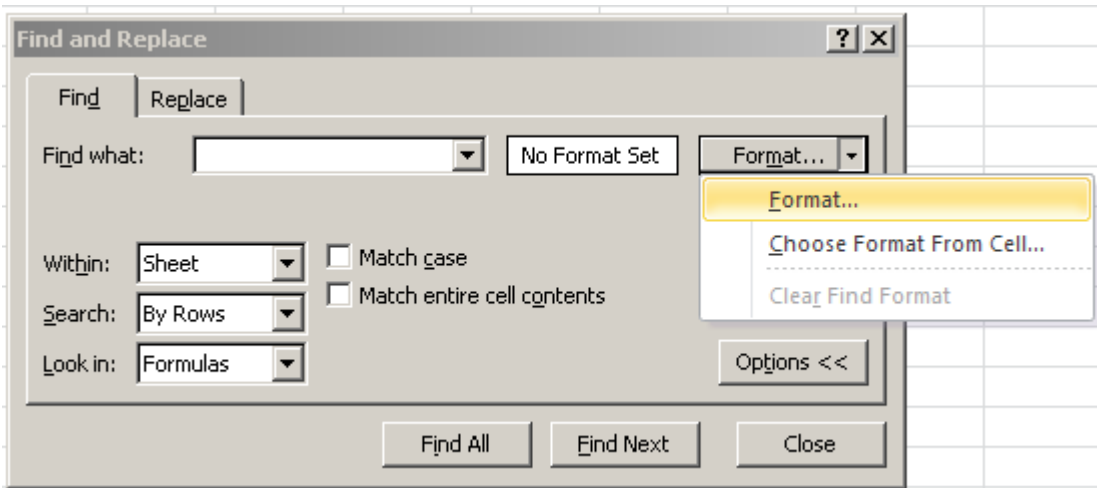
- If you choose **Fill Series** on the smart tag action menu, Excel creates the simple series 1, 2, 3 instead of copying the contents of cell.
- If you choose **Copy Cells** on the **AutoFill Options** menu, instead of extending the series, Excel copies the cells, repeating the pattern of selected cells as necessary to fill the range.
- Moreover, **AutoFill** normally increments recognizable date and time values when you drag the fill handle, even if you initially select only one cell.



2.3 Finding and Replacing

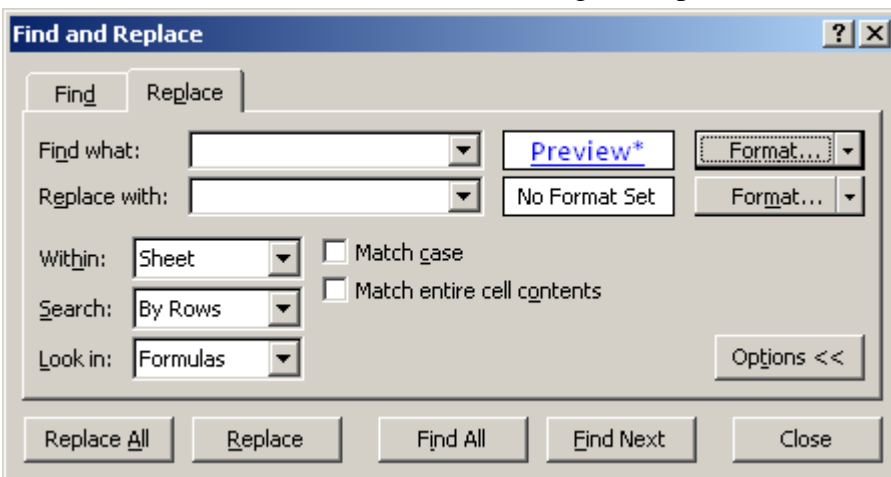
2.3.1 Finding Formatting

Excel provides a way to find cells based on formatting in conjunction with other criteria, and even to find and replace specifically formatted cells, regardless of their content. You can select any number of options in this dialog box, and when you are finished, click **[OK]** to add them to your criteria. If you click the **[▼]** button next to the **Format** button to display the Format menu, you can select **Choose Format From Cell**.



2.3.2 Replacing What You Find

Replace works much like Find by choosing **Replace**. You can also find and replace formats using the dual **[Format]** buttons. To replace every occurrence of a string or formatting, click **Replace All**. Instead of pausing at each occurrence to allow you to change or skip the current cell, Excel locates all the cells that contain the **Find What** string and replaces them.

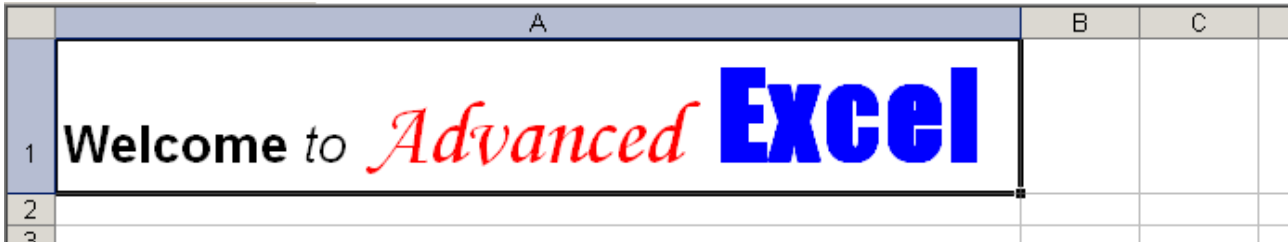


3. Worksheet Formatting Techniques

3.1 Formatting in Cells

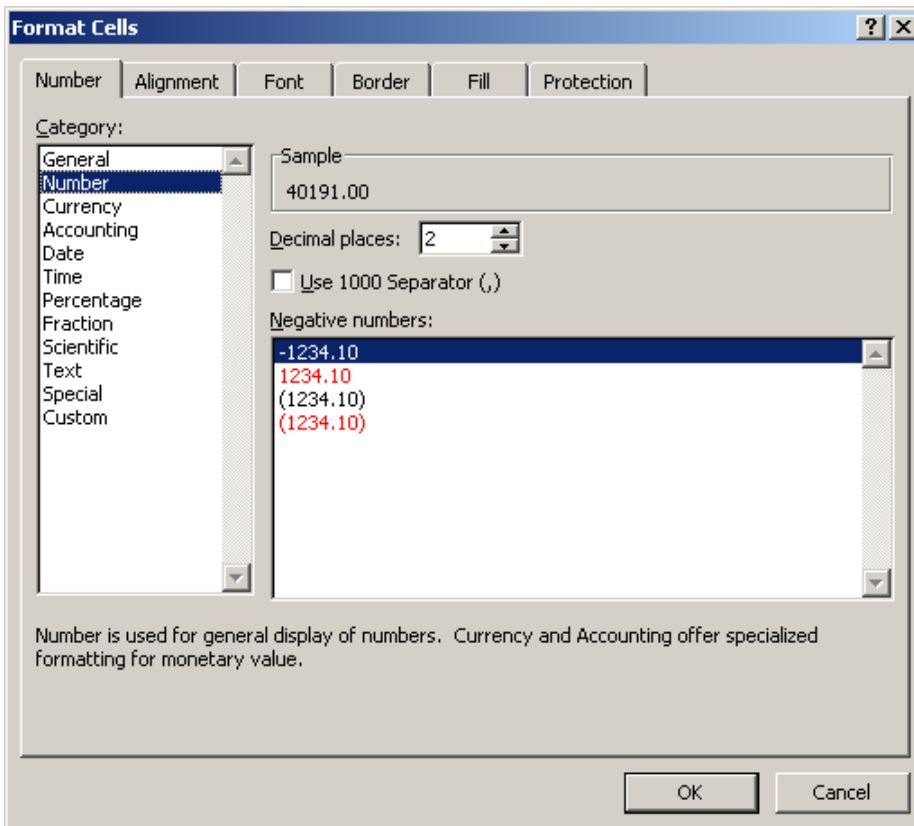
3.1.1 Formatting Individual Characters

If you select a cell and apply formats, the entire contents of the cell receive the formats. However, you can also apply formatting to individual text characters within cells (but not numeric values or formulas). Select individual characters or words, and apply the attributes you want. When you are finished, press **[Enter]** to see the results.



3.1.2 Formatting Numbers

The **Number** category in the **Format Cells** dialog box contains options for displaying numbers in integer, fixed-decimal, and punctuated formats. It is essentially the **General** format with additional control over displayed decimal places, thousand separators, and negative numbers. You can use this category to format any numbers that do not fall into any of the other categories.



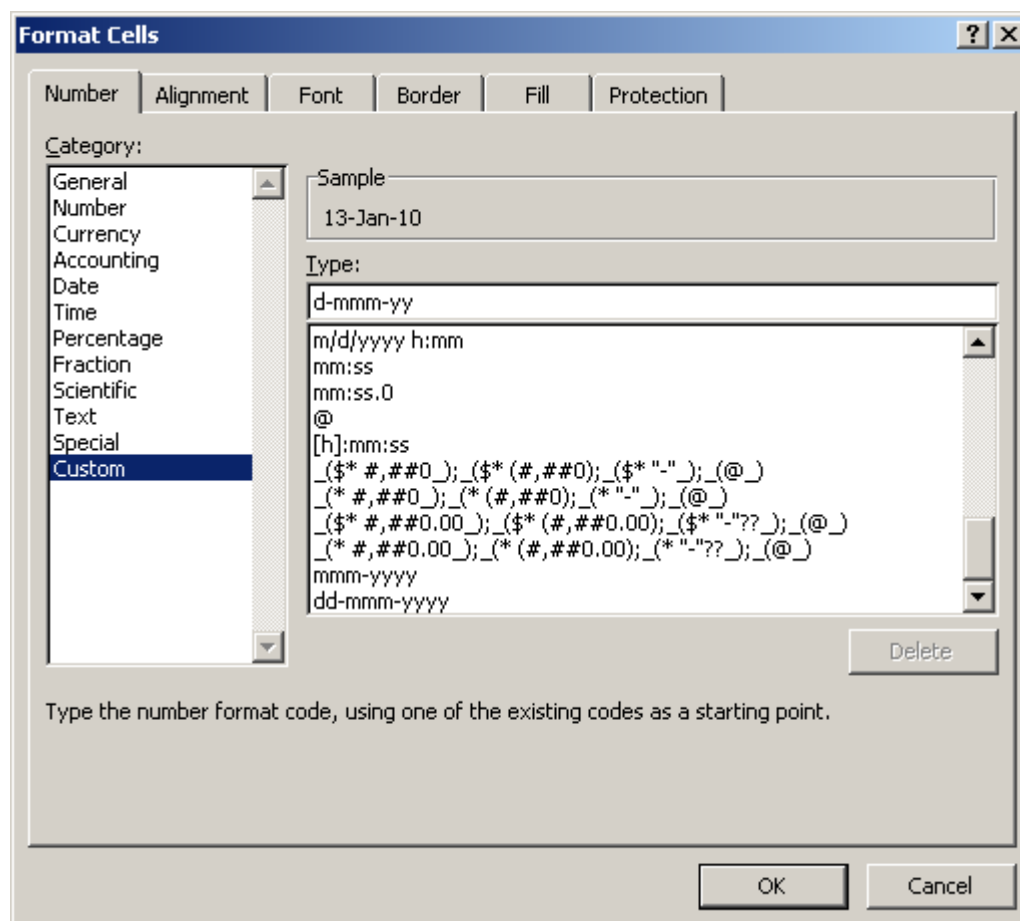
3.1.3 Formatting Currency

The **Currency** formats are similar to the **Number** formats except that instead of selecting the thousands separator (which accompanies all currency formats by default), you can select which currency symbol, if any, precedes (or trails) the number. Select the currency symbol in the **Symbol** drop-down list, which includes more than 250 different currency symbols from around the world.

3.2 Creating Custom Formats

3.2.1 Creating New Formats

Use the **Custom** tab in the **Format Cells** dialog box to create custom number formats using special formatting codes. Excel adds new formats to the bottom of the list of formatting codes in the **Type** list, which also includes built-in formats. To delete a custom format, select the format in the **Format Cells** dialog box and click **Delete**. However, you cannot delete built-in formats.



3.2.2 Custom Format Symbols

Symbol	Meaning
0	Digit Placeholder. This symbol ensures that a specified number of digits appear on each side of the decimal point. If a number has more digits to the right of the decimal point than the number 0s specified in the format, the number in the cell is rounded. (E.g. the value .98 is displayed as 0.980 if the format is 0.000; .98 is rounded to 1.0 if the format is 0.0)
?	Digit Placeholder. This symbol follows the same rules as the 0 placeholder, except that space is left for insignificant zeros on either side of the decimal point. This placeholder aligns numbers on the decimal points. (E.g., 1.4 and 1.45 would line up on the decimal point if both were formatted as 0.??)
#	Digit Placeholder. This symbol works like 0, except that extra zeros do not appear if the number has fewer digits on either side of the decimal point than #s specified in the format. This symbol shows Excel where to display commas or other separating symbols. (E.g. the format #,### display a comma after every 3 rd digit to the left of the decimal point)
%	Percentage Indicator. This symbol multiplies the entry by 100 and insert the % character.
.	Decimal Point. This symbol determines how many digits (0 or #) appear to the right and left of the decimal point. (E.g. if you want Excel to include commas and display at least one digit to the left of the decimal point in all cases, specify the format #,##0).
/	Fraction Format Character. This symbol displays the fractional part of a number in a non-decimal format. The number of digit placeholders that surround this character determines the accuracy of the display. (E.g. the decimal fraction 0.269 when formatted with # ??/? is displayed as 1/4, but when formatted with # ???/??? is displayed as 46/171)
,	Thousands separator. If the format contains a comma surrounded by #s, 0s, or ?s, Excel uses commas to separate hundreds from thousands, thousands from millions, and so on. (E.g. the format code #,###,###, would round 4567890 to 4,568, whereas the format code #,###,###, would round it to 5)
E- E+	Scientific Format Characters. If a format contains one 0 or # to the right of an E- or E+, Excel displays the number in scientific notation and inserts E in the displayed value. The number of 0s or #s to the right of the E determines the minimum number of digits in the exponent. Use E- to place a negative sign by negative exponents; use E+ to place a negative sign by negative exponents and a positive sign by positive exponents.
\	Literal demarcation character. Precede each character you want to display in the cell (except for : \$ - + / () and space) with a backslash. (E.g. the format code #,##0 \D;-#,##0 \C displays positive numbers followed by a D, and negative numbers followed by a C. To insert several characters, use the quotation-mark technique described in the "Text" table entry)
\$ - + / () space	Standard formatting characters. These symbols type these characters directly.
_	Underscore. This code leaves space equal to the width of the next character. Use this formatting character for alignment purposes. (E.g. _) leaves a space equal to the width of the close parenthesis)

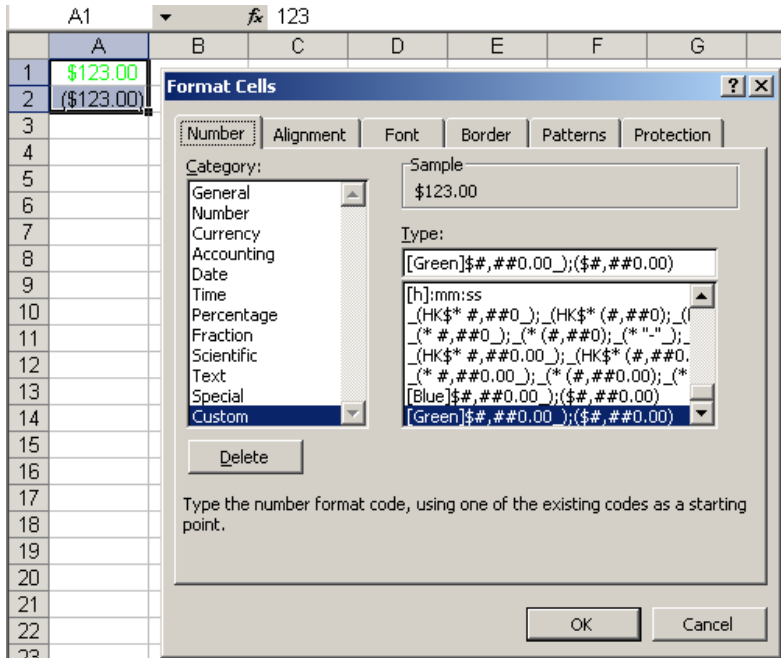
Symbol	Meaning
<i>“Text”</i>	Literal Character String. This formatting code works like the backslash technique except that all text can be included within one set of double quotation marks without using a separate demarcation character for each literal character.
*	Repetition Initiator. Repeats the next character in the format enough times to fill the column width. Use only one asterisk in the format.
@	Text Placeholder. If the cell contains text, this placeholder inserts that text in the format where the @ appears. (E.g. the format code <i>“Hello” @</i> displays <i>“Hello World”</i> in a cell containing the text <i>“World”</i>)

3.2.3 Codes for Creating Custom Date and Time Formats

Code	Meaning
General	Number in General (serial value) format
d	Day number without leading zero (1 – 31)
dd	Day number with leading zero (01 – 31)
ddd	Day-of-week abbreviation (Sun – Sat)
dddd	Complete day-of-week name (Sunday – Saturday)
m	Month number without leading zero (1 – 12)
mm	Month number with leading zero (01 – 12)
mmm	Month name abbreviation (Jan – Dec)
mmmm	Complete month name (January – December)
yy	Last two digits of year number (00 – 99)
yyyy	Complete four-digit year number (1900 – 2078)
h	Hour without leading zero (0 – 23)
hh	Hour with leading zero (00 – 23)
m	Minute without leading zero (0 – 59)
mm	Minute with leading zero (00 – 59)
s	Second without leading zero (0 – 59)
ss	Second with leading zero (00 – 59)
s.0	Second and tenths of a second without leading zero
s.00	Second without leading zero and hundredths of a second without leading zero
ss.0	Second without leading zero and tenths of a second with leading zero
ss.00	Second and hundredths of a second with leading zero
AM/PM	Time in AM/PM notation
am/pm	Time in am/pm notation
A/P	Time in A/P notation
a/p	Time in a/p notation
[]	Brackets display the absolute elapsed time when used to enclose a time code

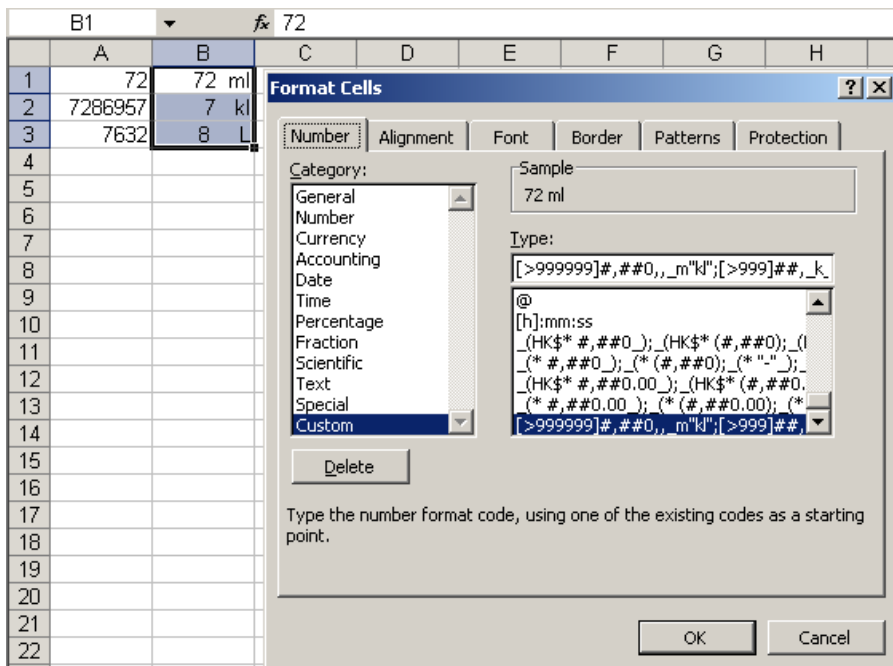
3.2.4 Adding Color to Formats

You can also use the **Number** formats to change the color of selected cell entries. You can even create formats that assign different colors to specific numeric ranges so that all values greater than or less than a specified value appear in a different color. To change the color of an entry, type the name of the new color in brackets (e.g. [BLUE]) in front of each segment of code.



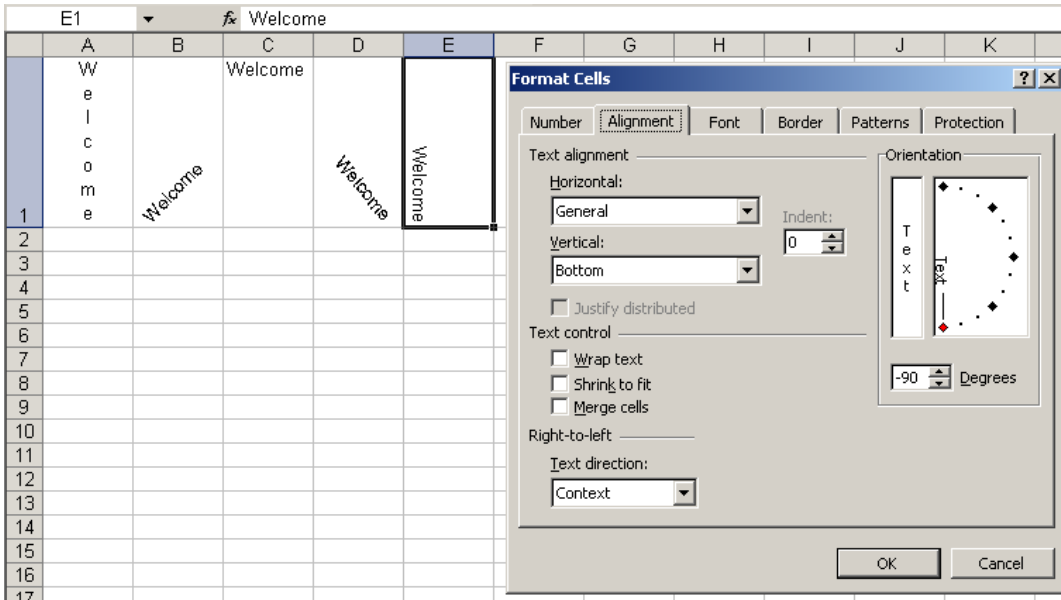
3.2.5 Using Custom Format Condition Operators

You can create custom formats that are variable by adding a condition operator (<, >, =, <=, >=, or <>) to the Excel for conditional format.



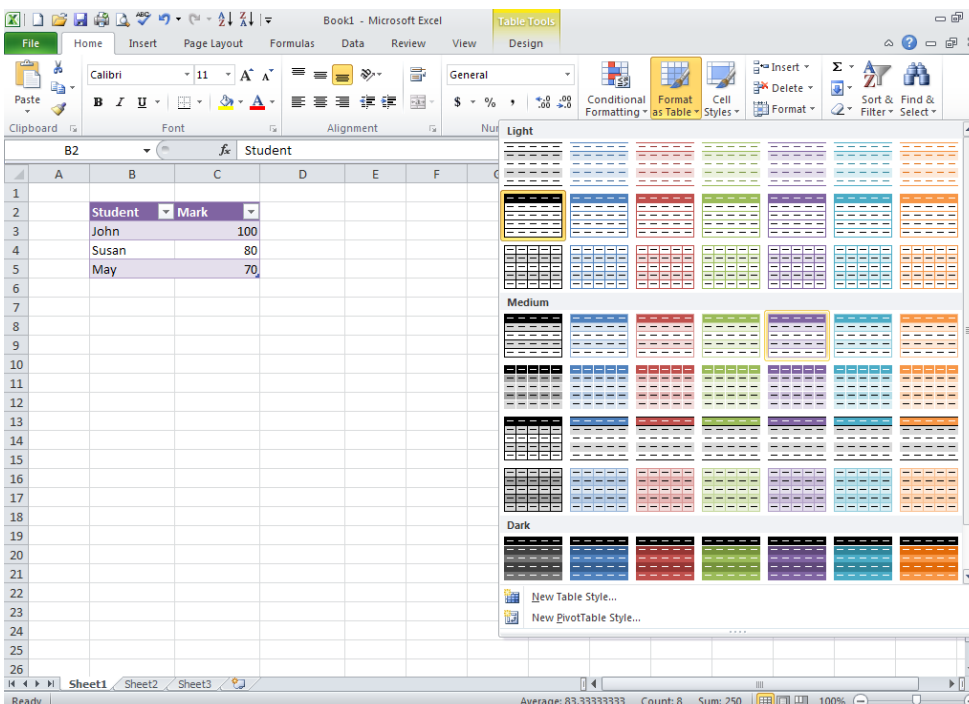
3.3 Aligning Data

The **Alignment** tab in the **Format Cells** dialog box, positions text and numbers in cells. It also contains options you can use to create multi line text labels, repeat a series of characters within one or more cells, and orient text vertically or at any angle in cells.



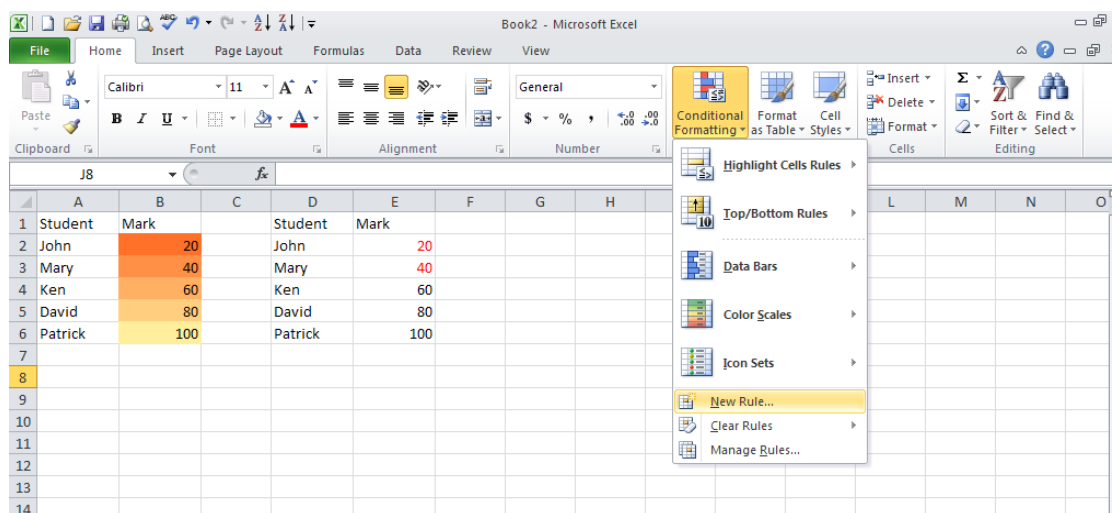
3.4 AutoFormat

Style galleries for tables, cells, and PivotTables provide a set of professional formats that can be applied quickly. You can choose from many predefined styles or create custom styles as needed. Styles replace AutoFormat as the simplest way to apply formatting to a range of cells.



3.5 Applying Conditional Formats

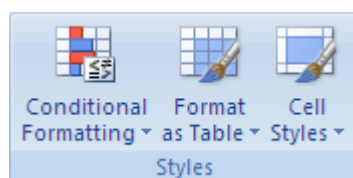
Conditional formatting is a popular feature documented in many books and articles. By using conditional formatting, you can apply formatting automatically to one or more cells based on the value of the cell or the value of a formula. This feature makes it simple to highlight specific values or to identify values in a range. *For example, conditional formatting can answer questions such as "Show me the top 10 percent of all sales for North America" or "Show me just Nancy's sales for the year." It's a powerful feature because you can apply it to any Excel formula.*



3.5.1 Format all cells by using a two-color scale / three-color scale

Color scales are visual guides that help you understand data distribution and variation. A two-color / three-color scale helps you compare a range of cells by using a gradation of two / three colors. The shade of the color represents higher, (middle), or lower values. For example, in a green, yellow, and red three-color scale, you can specify that higher value cells have a green color, middle value cells have a yellow color, and lower value cells have a red color.

1. Select one or more cells in a range, table, or PivotTable report.
2. On the **Home** tab, in the Styles group, click the arrow next to **Conditional Formatting**, and then click **Color Scales**.



3. Select a two-color scale or three-color scale. The top color represents higher values, the center color represents middle values, and the bottom color represents lower values.
4. You can change the method of scoping for fields in the Values area of a PivotTable report by using the Apply formatting rule to options button.

3.5.2 Format all cells by using data bars

A data bar helps you see the value of a cell relative to other cells. The length of the data bar represents the value in the cell. A longer bar represents a higher value, and a shorter bar represents a lower value. Data bars are useful in spotting higher and lower numbers, especially with large amounts of data, such as top selling and bottom selling toys in a holiday sales report.

3.5.3 Format all cells by using an icon set

Use an icon set to annotate and classify data into three to five categories separated by a threshold value. Each icon represents a range of values. For example, in the 3 Arrows icon set, the green up arrow represents higher values, the yellow sideways arrow represents middle values, and the red down arrow represents lower values.

3.5.4 Format only cells that contain text, number, or date or time values

To more easily find specific cells within a range of cells, you can format those specific cells based on a comparison operator. For example, in an inventory worksheet sorted by categories, you can highlight the products with fewer than 10 items on hand in yellow. Or, in a retail store summary worksheet, you can identify all stores with profits greater than 10%, sales volumes less than \$100,000, and region equal to "SouthEast".

3.5.5 Format only top or bottom ranked values

You can find the highest and lowest values in a range of cells based on a cutoff value that you specify. For example, you can find the top 5 selling products in a regional report, the bottom 15% products in a customer survey, or the top 25 salaries in a department personnel analysis.

3.5.6 Format only values that are above or below average

You can find values above or below an average or standard deviation in a range of cells. For example, you can find the above average performers in an annual performance review or you can locate manufactured materials that fall below two standard deviations in a quality rating.

3.5.7 Use a formula to determine which cells to format

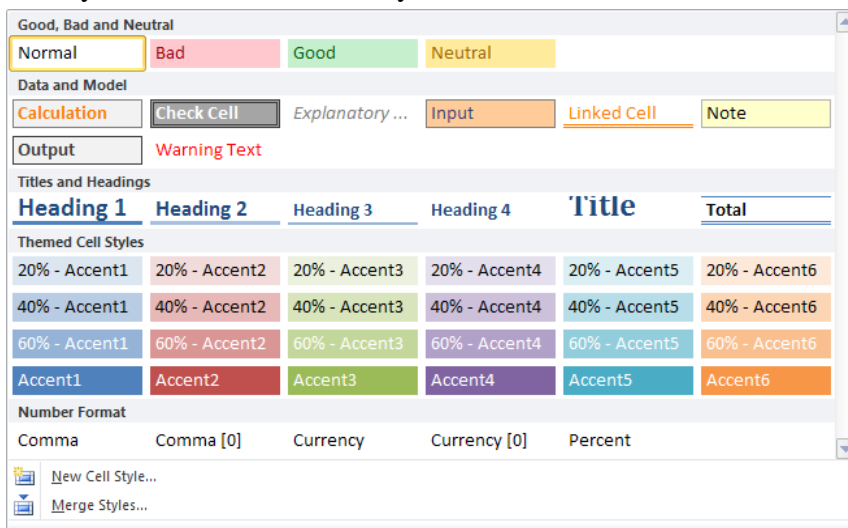
If your conditional formatting needs are more complex, you can use a logical formula to specify the formatting criteria. For example, you may want to compare values to a result returned by a function or evaluate data in cells outside the selected range.

3.5.8 Find cells that have conditional formats

If your worksheet has one or more cells with a conditional format, you can quickly locate them so that you can copy, change, or delete the conditional formats. You can use the Go To Special command to either find only cells with a specific conditional format or find all cells with conditional formats.

3.6 Formatting with Styles

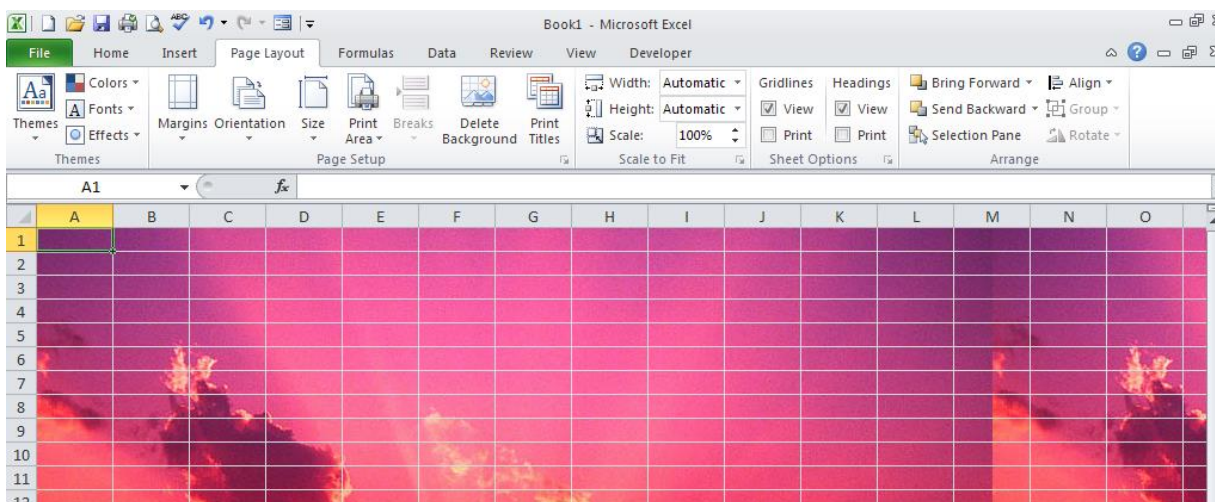
To apply several formats in one step, and to make sure that cells have consistent formatting, you can use a cell style. A cell style is a defined set of formatting characteristics, such as fonts and font sizes, number formats, cell borders, and cell shading. To prevent anyone from making changes to specific cells, you can also use a cell style that locks cells.



Microsoft Office Excel has several built-in cell styles that you can apply or modify. You can also modify or duplicate a cell style to create your own, custom cell style. Cell styles are based on the document theme that is applied to the whole workbook. When you switch to another document theme, the cell styles are updated to match the new document theme.

3.7 Background Image

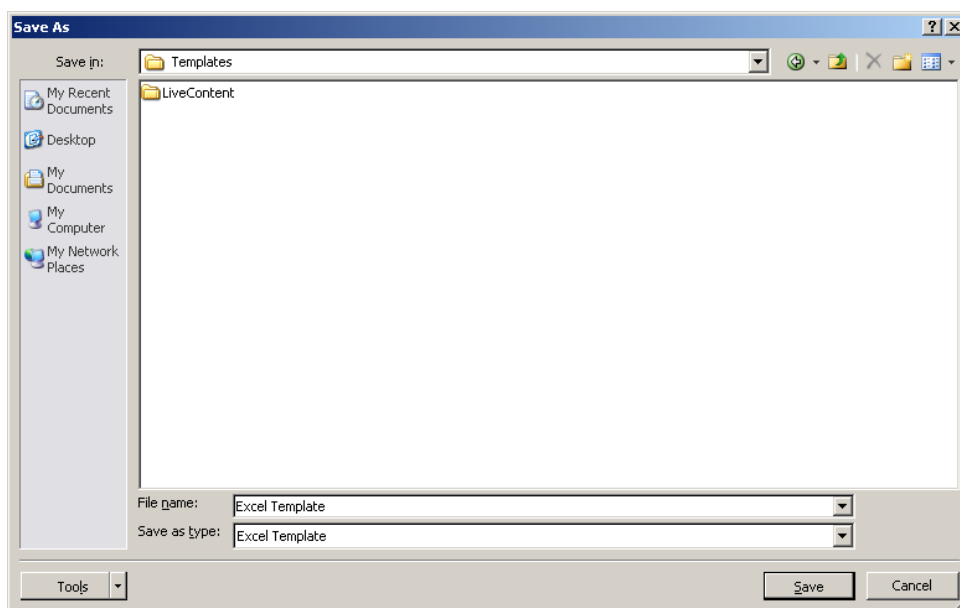
Imagine the plain black and white data with some graphs being pre-presented in a meeting to some client or other audience. An excel sheet is something similar and is pretty plain and simple. Just open the excel sheet on which you want to add the background image. If you want to create a new one, just open a new blank sheet. Click on **Page Layout, Background** to add a background image.



3.8 Using Template Files to Store Formatting

A template file is a model that can serve as the basis for new worksheets. A template can include both data and formatting information. The advantages to using templates are standardization and protection. To create a template file, follow these steps:

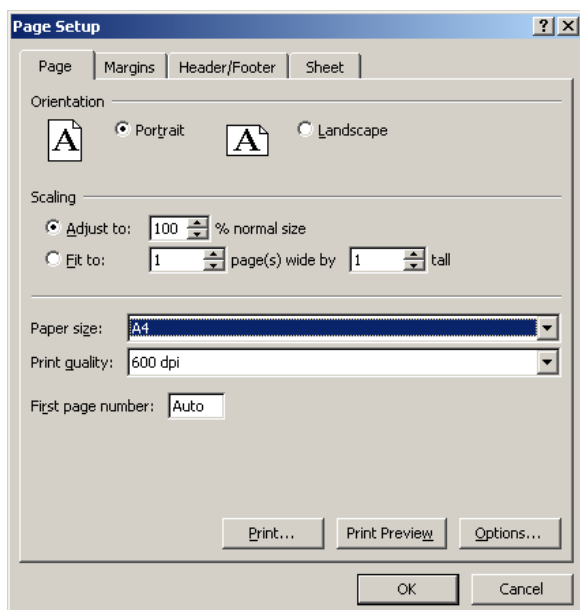
1. Open the workbook you want to use as a template.
2. Choose **Save As**, and supply a file name.
3. Choose **Excel Template** from the **Save as type** list, and click [**Save**] button.



4. Pages Setup and Printing

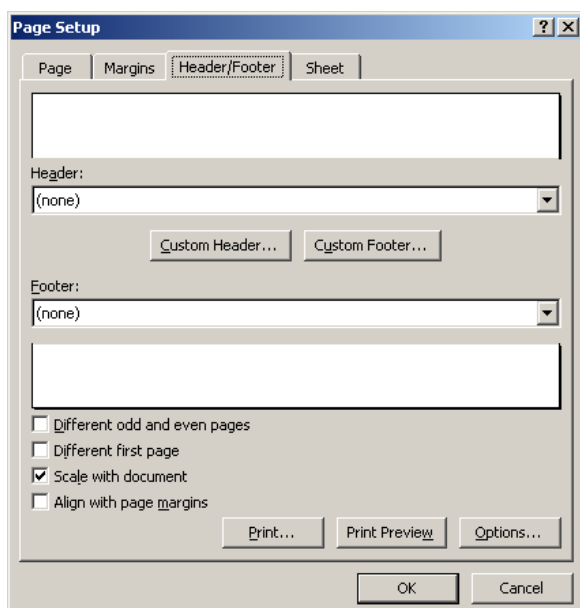
4.1 Setting the Scaling Ratio

Using the **Scaling** setting on the **Page** tab of the **Page Setup** dialog box, you can override the default size of your printouts in one of two ways: by specifying a scaling factor (10% - 400%) or by fitting the report to a specified number of pages. Excel always scales in both the horizontal and vertical dimensions.



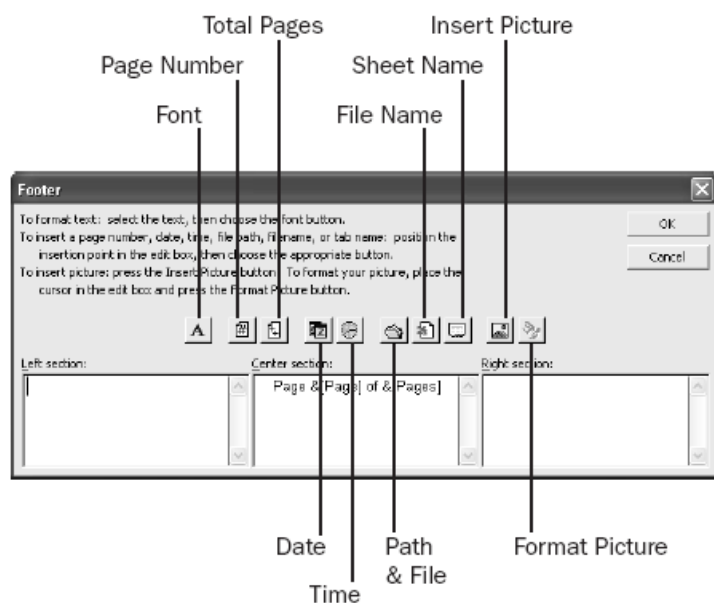
4.2 Creating Header and Footer

On the Header/Footer tab of the Page Setup dialog box, you can provide essential information about your printout (such as file name, creation date, page number, and author's name) by including a header (printed at the top of each page) or footer (printed at the bottom of each page).



4.2.1 Creating Custom Headers and Footers

If you don't find what you need in the list of predefined headers and footers, you can create your own or modify one of Excel's. If you create custom headers or footers for the current workbook, Excel adds them to these drop-down lists. Click the **[Custom Header...]** button to open the **Header** dialog box, or the **[Custom Footer...]** button to open the footer dialog box.



4.2.2 Adding Pictures to Headers and Footers

You can add pictures to custom headers and footers using the **[Insert Picture]** and **[Format Picture]** buttons. When you insert the picture, Excel displays **&[Picture]** in the section box of the Header or Footer dialog box. (Unlike other header and footer codes, you can't just type in this code). After you insert the picture, click the **[Format Picture]** button to specify the size, brightness, and contrast of the picture and to rotate, scale, or crop the picture.

4.3 Page Break

4.3.1 Adjusting Page Breaks

Excel makes it easy to adjust the positions of page breaks. You can do this by selecting **View** tab, and then **Page Break Preview**. You can move page breaks by dragging them with the mouse. You can even edit your worksheet while in **Page Break Preview** mode.

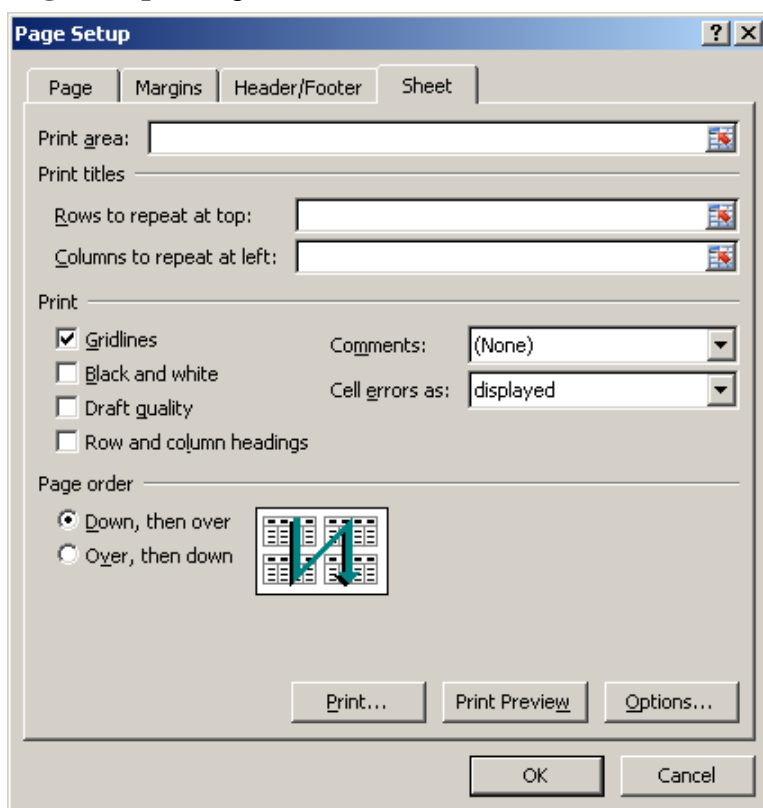
4.3.2 Inserting and Removing Manual Page Breaks

To add a page break, select any cell of the row directly beneath or in the column directly to the right of where you want the break to occur, and then choose **Layout** tab, **Breaks** group, **Insert Page Break**. If you select a cell where data appears both below and to the right, Excel applies page breaks both horizontally and vertically. To remove a break, position your mouse in the row below a horizontal break, or in the column to the right of a vertical break, and then choose **Layout** tab, **Breaks** group, **Remove Page Break**.

4.4 Printing

4.4.1 Printing Gridlines

By default, Excel does not print gridlines, regardless of whether you have them displayed on your worksheet. If you want to print gridlines, select the **Gridlines** check box on the **Sheet** tab of the **Page Setup** dialog box.



4.4.2 Printing Comments

To make sure the comments in your worksheet are included with your printout, select one of the Comments options on the **Sheet** tab of the **Page Setup** dialog box.

- If you select **At end of sheet** from the drop-down list, Excel adds a page to the end of the printout and prints all your notes together, starting on that new page.
- If you select **As displayed on Sheet**, Excel prints the comments where they are located on a worksheet

4.4.3 Printing Drafts

If your printer offers a draft-quality mode, you can obtain a quicker, though less attractive, printout by selecting the **Draft Quality** option on the **Sheet** tab of the **Page Setup** dialog box. This option has no effect if your printer has no draft-quality mode and is most useful for dot matrix or other slow printers, or if your worksheet contains a lot of graphics.

4.4.4 Printing Row and Column Headings

If you select the **Row and column headings** option on the **Sheet** tab of the **Page Setup** dialog box, Excel prints row letters to the left of and column numbers on top of worksheet data. This option is handy when you're using printouts to document the structure of a worksheet.

4.4.5 Setting the Printing Order of Large Print Ranges

When you print a large report, Excel breaks the report into page-size sections based on the current margin and page-size settings. If the print range is both too wide and too deep to fit on a single page, Excel normally works in **Down, then over** order. If you prefer to have Excel print each horizontal chunk before moving down to the next vertical chunk, select the **Over, then down** option on the **Sheet** tab of the **Page Setup** dialog box.

4.4.6 Print Titles

When Excel breaks up a large report into pages, the column and row labels might appear only on the first page of the printout. You can use the **Sheet** tab of the **Page Setup** dialog box to force Excel to print the contents of one or more columns, one or more rows, or a combination of columns and rows on every page of a report.

If the portion of the spreadsheet you want to select is not visible, click the button on the right side of the **Rows to repeat at top** box. The dialog box collapses to give you more room; to redisplay the full dialog box, click the button on the right side of the box. Click the **Columns to repeat at left** box, and then select the column.

	A	B	C	D	E	F	G
1	ID	Last Name	First Name	Date of Hire	Date of Birth	Dept.	Salary
2	1	Abercrombie	Kim			D	\$91,000
3	2	Ackerman	Pill			E	\$31,000
4	3	Ajenstat	François	01-Feb-1981	21-Dec-1964	C	\$48,000
5	4	Akers	Kim	29-May-1979	08-Apr-1958	C	\$47,000