

# **EXCEL Made Simple (Large Print)**

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**NATIONAL ASSOCIATION FOR THE BLIND  
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Tutorial MS-Excel developed for persons with low or no vision for the students of Intel Technology Training Lab at National Association for the Blind, New Delhi

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## **PREFACE**

This book is an attempt at explaining the various features of MICROSOFT EXCEL. The various aspects of working with spreadsheets have been explained in seven chapters, each dealing with a separate topic, namely: introduction, getting started, editing, creation of formulas, formatting of data, printing and creation of charts.

Keeping in view the needs of visually impaired users, care has been taken to adopt a keyboard approach to all tasks although the mouse options have also been mentioned. References to SCREEN READER keystrokes have been made wherever necessary. A list of all screen reader keystrokes for this application has been provided at the end for ready reference. This tutorial also contains a very comprehensive compilation of EXCEL application keystrokes.

The screen reading software referred to in this document is JAWS FOR WINDOWS 5.0.

The menu commands and other features explained here are as found in EXCEL 9.0 of MICROSOFT OFFICE 2000.

## Conventions used in this work

- ❖ The screen reader keystrokes have been prefixed with two star symbols (\*\*), to distinguish them from the application keystrokes.
- ❖ The plus sign(+) used between keystrokes, as in for example CONTROL+TAB does not mean that plus has to be typed in, it simply means that both the keys have to be pressed.
- ❖ In discussing options or fields of different dialog boxes, the type of the field has been mentioned in parenthesis after its name to indicate the keys to be used for making a change in that field.
- ❖ The term `SELECTION` in dealing with menu items implies that the particular menu item has to be selected and activated that is, to be clicked with the mouse or to press ENTER from the keyboard.
- ❖ This book does not deal with the procedures of file management (opening, saving of files), navigation in menus and dialog boxes & basic windows operations because these are beyond the scope of this chapter. The readers are expected to have prior knowledge on these topics.

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# 1. INTRODUCTION TO EXCEL

This chapter covers the following topics:

- What is an Electronic Spreadsheet
- How to start Excel
- How to navigate through the Excel working environment.
- Components to a worksheet
- Exiting Excel

## What is an Electronic Spreadsheet

An electronic spreadsheet is an electronic replacement for the traditional financial modeling tools i.e. the accountant's columnar pad, pencil, and calculator. These offer dramatic improvements in creating, editing and recalculations. Among the various spreadsheet packages available MICROSOFT EXCEL is a popular choice. It is a part of a bigger package of applications called MICROSOFT OFFICE. As the name suggests it is a product of MICROSOFT the maker of WINDOWS operating systems.

## How to start Excel

Before you start EXCEL, ensure that EXCEL is installed on your machine. Its icon is generally found in the PROGRAMS sub menu (inside the START MENU). At times it may be inside the MICROSOFT office Group inside the PROGRAMS menu. Press enter or double-click the application named Microsoft Excel

## Excel Working Environment

When you start Excel, two windows appear on the screen, one nested snugly within the other. The larger of these is called the application window, frames the entire screen; you use it to communicate with the Excel program. The smaller window, called the document window, is used to create and edit Excel worksheets and charts.

## Excel Application Window

The Excel application window is like a program manager. It provides you with tools, commands, and status messages to use with your worksheets.

These elements displayed are as follows:

1. Title Bar: The bar at the top of the application window. It displays the name of the application - Microsoft Excel. \*\* INSER + T reads the title bar.
2. Menu Bar: The bar below the title bar which is used to choose commands from Excel's drop-down menu system. The items on the menu bar are as follows:

### **File Edit View Insert Format Tools Data Window Help**

Menu bar can be accessed by the mouse or keyboard. To access the menu bar with the keyboard activate the menu using the ALT key or F10 function key and then use the arrow keys to move to a particular menu choice. The hot keys for the different menu items can also be used. Note that the hot key for menu items is the letter underlined in their names as shown in the name of menu items above.

3. Standard toolbar: The bar below the menu bar. You click on its tool buttons to choose frequently used commands and utilities.
4. Formatting toolbar: The bar below the standard toolbar. You click on its tool buttons to choose frequently used formatting commands.
5. Formula bar: The bar below the formatting toolbar. It displays the contents of the currently active worksheet cell.
5. Status bar: The bar at the bottom of the application window. It displays information about the currently selected command and the current status of the workspace. \*\* INSERT + PAGE DOWN read the status bar.

## Document Window

The Excel document window displays the currently active worksheet and the workbook in which it is contained. The elements are displayed as follows:

1. Title bar: The bar at the top of the document window. It displays the name of the workbook (book 1).
2. Worksheet tabs: The tabs at the bottom of the document window. You use these to select a different worksheet within the current workbook. **CONTROL + PAGE UP** or **PAGE DOWN** can be used to scroll between the different worksheets in a workbook.
3. Worksheet-tab scroll buttons: The set of four boxes to the left of the worksheet tabs. You use these to scroll through the worksheet tabs.
4. Scroll bars: The vertical and the horizontal scroll bars framing the right and lower borders of the document window. You use the scroll bars, along with the scroll boxes and scroll arrows they contain, to change which portion of the worksheet is displayed in the document window. The keyboard options for scrolling on a given worksheet are given in the next section.
5. Column headings: The letters at the top of the worksheet column.
6. Row headings: The number at the left of each worksheet row.

In Microsoft EXCEL, files are called Workbooks. When you open a new workbook, you have 3 blank sheets named Sheet 1, Sheet 2 & sheet 3. You can enter data in more than one sheet at a time, switch between sheets. You can switch sheets with the keyboard use CTRL+ PAGEUP to move to previous sheet or CTRL + PAGE DOWN to move to the next sheet.

## The Worksheet

An Excel worksheet is an electronic version of a paper spreadsheet. You arrange your data in rows and columns. A worksheet consists of a grid of 256 columns and 65,536 rows.

Columns headings are designated by alphabets - beginning with letter A and continue through the letter z. After the 26th column, headings become double letters that is AA through IV.

Rows are designated by numbers running down the left border. So the first row is called row 1 and the last row is row 65,536.

The intersection of a column and row is called a cell. For example, cell A1 is the intersection of the first column with the first row. Data is entered directly in the currently active cell. An active cell is the one that is outlined by a dark border. Only one cell can be active at a time. The name of the active cell appears in the cell-reference area on the far left of the formula bar. The screen reader reads out the address of the cell as one moves between cells using the ARROW keys. The cell address of active cell can be read by the command **\*\*INSERT + C**.

## Moving around in a Worksheet

Left one cell -- Left arrow

Right one cell --- Right arrow

Up one cell --- Up arrow

Down one cell -- Down arrow

Up one screen -- Page up

Down one screen -- Page down

First cell in a row that contains data -- **CTRL + LEFT ARROW**

Last cell in a row that contains data --- **CTRL + RIGHT ARROW**

Start of worksheet -- **CTRL + HOME**

**\*\*Move to prior screen in spreadsheet ALT+PAGE UP**

**\*\*Move to next screen in spreadsheet ALT+PAGE DOWN**

## Selecting Multiple Cells

You can select several cells at once by holding down the Shift while you click the mouse on the cells.

To select several adjacent cells

1. Select the first cell in the set
2. Hold down Shift.
3. Press repeatedly the arrow key in the direction of the last cell in the set to be selected or simply select the first cell and drag to the last cell with the mouse.
4. For selecting entire columns and rows use-  
Select column **CTRL+SPACEBAR**

Select row **SHIFT+SPACEBAR**

## Exiting Excel

When you finish an Excel work session and want to exit Excel, you can do either of the following:

Open the File menu to display the drop-down menu. In this menu, click or press **ENTER** on **EXIT**.

## 2. Getting Started

**This chapter covers the following topics:**

- Entering data
- Saving Files
- Closing Files
- Opening Files

## Entering Data

You can enter text, numbers, and formulas into any cell on a worksheet. You simply select a cell and type the data.

**Follow these guidelines when entering the numbers.**

You can include commas in numbers such as 1,000.

A single period in a numeric entry is treated as a decimal point.

Plus sign entered before a number are ignored.

Precede negative numbers with a minus sign or enclose them within parentheses.

Text can include alphabets, numbers or special characters. To enter numbers as text, precede the entry with an apostrophe as follows:

'244 entry will be treated as text and not number.

When you need to perform calculations in Excel, you use a formula. You can create formulas by preceding the entry with an equal sign (=). This will be discussed later on.

Excel allows you to enter date or time. Use the following guidelines when entering date or time:

If you want to display time using the 12 hour clock, type am or pm; for example: 3.00 pm or 3,00 am. Unless you type am or pm Excel automatically displays the time using 24 hour clock.

You can type a date and time in the same cell. Just separate the date and time by a space.

To enter dates, use either a / or – as separator.

The following keyboard shortcuts can be used to insert current date or time in the default format.

Date stamp **CTRL+; (SEMICOLON)**

Time stamp **CTRL+SHIFT+; (SEMICOLON)**

To save any worksheet, one will have to save the entire workbook in which the worksheet is contained.

1. Select the File menu.
2. Choose the Save As option
3. Type a file name (let's call it First) and save it in the desired location. Note that excel provides the same type of save as dialog box as seen in MS WORD or in any other office application.

## Closing Files

To close the file, select the file menu and choose the Close command. The keyboard shortcut is **ALT + F4**.

## Opening Files

To open an existing worksheet

1. Click the open button on the tool bar

Or

Select the open option from the file menu.

2. Select the appropriate drive and directory from the **LOOK IN** combo box.

3. Select the file name from the file list and choose OK.

## 3. Editing the Worksheet

**This chapter covers the following topics:**

- Editing Data
- Undoing Changes
- Removing Data
- Copying and Pasting Data
- Moving Data
- Inserting & Deleting
  - Rows
  - Columns
  - Cells

## Editing Data

Editing data is making changes to an existing data. You can edit data in two places on a sheet.

You can select the cell and edit data in the formula bar OR you can edit the data right in the cell.

For example, let us assume that the cell D6 contains the figure 26,500. To change it to 25,600 do the following.

1. Use arrow keys to select cell D6
2. Now there are two ways of editing data in a cell.
3. The first one is the **OVERWRITE** mode in which you type the complete new data and the old data in the cell gets replaced by it.
4. The second method is to make desired changes in the contents of the cell by going into the **EDIT MODE**. Press F2, the selected cell then comes into edit mode and then the insertion pointer can be moved around the data in the cell. Now place the insertion point at 6. Type 5, and delete the additional 5 after 6.

To edit the data using mouse, you simply double-click the cell and then move the insertion point to wherever you need it in the cell. You can then either type the new information or delete the information that is incorrect.

## Undoing Changes

You can always correct mistakes which you are typing by pressing the Delete key and retyping the correct letters or numbers. But what if you select a cell and clear it or type over the contents of a cell by mistake? You can recover from such mistakes by-

Using the Undo command on the Edit menu or its accelerator key

**CONTROL + Z**

OR

Undo button on the toolbar.

If you decide that you want to keep the change after all, you can use the Redo command on the Edit menu (**CONTROL + Y**) or use the Redo button.

The name of the Undo command changes to reflect the specific action that can be undone.

In some instances, the Undo command is not available example after you issue a File Save command.

## **Removing Data**

If data needs to be removed from a cell, you can easily delete the information and replace it with new information. You can also remove data from a cell by selecting the cell and pressing Delete.

Data can be also erased by selecting the Clear command on the Edit menu.

When you enter data in the cells, you are not locked in to the arrangement. You can always rearrange data if you need to that is you could copy and paste data between cells, insert and delete cells, rows and columns, and even move data between cells.

### **Copying and Pasting Data between Cells.**

If you need to copy information to another place on the worksheet, you can either

Use the mouse to drag the data to a new location

OR

Use copy and Paste buttons on the toolbar

OR

Copy and Paste commands on the Edit menu.

## **Using Copy and Paste**

Before copying data it is essential to select the cells which contain the data to be copied. After selecting the cells, select the Copy command from the Edit menu. A moving dotted line, the marquee, surrounds the selected cells.

You can use keyboard shortcuts for both the Copy and Paste commands.

To copy data: Hold down Ctrl and Press C.

To paste data: Hold down Ctrl and press V.

If you need to copy a given range to multiple locations in a worksheet choose the paste command or use the Ctrl-V combinations. The marquee remains active, signaling that you can paste the selected data in as many locations as you want. To complete the command, press Enter when you paste the data for the last time, or press Esc. To remove the marquee.

## Moving Data between cells.

Just as you can copy data by dragging with the mouse or by using menu commands, you can also moving data using the Cut and Paste commands.

### Using Cut and Paste.

Cutting and Paste with commands is much like copying and pasting with a twist: You use the Cut command instead of the copy command, and you move data rather than duplicate it. The shortcut command is CONTROL +X.

## Inserting Rows & Columns

Excel gives you the facility to insert blank rows or columns. To insert a new row above a row, follow these steps:

1. Select the row above which the new row is to inserted by clicking its header or pressing **SHIFT + SPACE**.
2. Choose the Row command from the Insert menu. The rows move down, leaving a new, blank row.

Excel makes it as easy to insert new columns as it is to insert new rows in your worksheets. The steps followed for inserting a column are the same as that for inserting a row. Instead of selecting the row header select the column header to the right of the location where you need the new column. Alternatively, press **CONTROL + SPACE** from the keyboard. Then choose the column command from the Insert menu.

## Inserting Cells:

When you want to insert only a few cells, simply select the same number of cells below or to the right of the location where you need new cells. Then choose the Cells command from the Insert menu. Excel shifts other cells in the worksheet to make room for the new cells. However, you must first choose from the dialog box, that opens on giving the command between shifting the selected cells to the right and shifting the selected cells down.

## Deleting Rows and Columns

Deleting rows and columns is as straightforward as inserting them. To delete a column:

1. Select the column header of the column to be deleted or select that column by pressing **CONTROL + SPACE**
2. Choose the Delete command from the Edit menu.

To delete a row, follow step 2 after selecting the row.

## Deleting cells

The Delete command on the Edit menu works in much the same manner as the Insert command. To delete the cell range A4 : A 12, follow these steps:

1. Select the range A4:A12
2. Choose the Delete command from the Edit menu.
3. Confirm whether to Shift Cells left or to shift cells up in the dialog box that opens.
4. Click OK, or press Enter.

**NOTE:** The Insert and Delete commands on the Edit menu work only with single rectangular selections. You cannot insert or delete multiple, noncontiguous ranges with one command.

## 4. WRITING FORMULAS

This chapter covers the following topics:

- Using References
- Writing Formulas
- Creating Simple Formulas
- Order of Evaluation
- Using Cell Addresses in Formulas
- Copying Formulas
- Totaling Cell Addresses Automatically

### Using References

With references, you can identify cells or groups of cells on a worksheet.

Range (colon): Produces one reference to the cells enclosed between a rectangular area using the cell addresses of the two cells at the edges. It is written as

(Top Cell Address : Bottom Cell Address)

For example, if you want to refer to cells A1, A2, A3 & A4 then the range will be written as

(A1:A4)

Similarly, if cells A1, A2, A3, B1, B2 & B3 are to be referred, the range will be written as

(A1:B3)

### Writing Formulas

You can perform calculations with your data using formulas, which are made up of data operators and often functions. Microsoft Excel offers you a variety of functions that makes calculations easier for you.

## Creating Simple Formulas

To tell Excel that you're entering a formula in a cell, you must begin the entry with an equal sign (=).

Lets create a simple formula with adds the value 25 to 35. In a blank cell let's say A1 enter

= 25 + 35

After entering the formula, press the Enter key for Excel to accept the formula. The result 60 will appear in A1. The formula however is displayed in the formula bar. While navigating around in a worksheet, whenever the pointer selects a cell which has a formula, the screen reader announces this message. The formula can be read by giving the command **\*\*CONTROL + F2**.

Your formulae can use any of the numeric operators: plus (+) for addition, minus (-) for subtraction, asterisk (\*) for multiplication, and slash (/) for division. Other kinds of numeric Operators include percent (%) which divides the preceding value by 100, and caret (^) which multiplies the preceding value by itself the number of times specified by the following value .

For example, if you type = 23 ^ 3 in cell A1 and press enter, Excel multiplies 23 by itself there times and displays the result : 12167 in the cell.

## Order of Evaluation

Excel performs a rigid set of rules, known as order of evaluation, when performing multiple computations in a single formula. Table 4.1 lists the Microsoft Excel numeric operators in order to evaluate, from first to last. When two operators have equal precedence (for example, division and multiplication), Excel performs the computations from left to right

- Negation

% Percentage

^ Exponentiation

/,\* Division, Multiplication

+,- Addition, Subtraction

let's take a look at this example

$$84 * 0.7 ^ 2 / 24 * 3.26 - 29$$

Stepwise evaluation

1. Exponentiation =  $84 * 0.7 ^ 2 / 24 * 3.26 - 29$

2. Multiplication =  $84 * 0.49 / 24 * 3.26 - 29$

3. Division =  $41.16 / 24 * 3.26 - 29$

4. Multiplication =  $1.715 * 3.26 - 29$

5. Subtraction =  $5.5909 - 29$

6. Result =  $-23.4091$

You can override Excel's order of evaluation by enclosing parts of the formulae in parentheses. Excel then performs enclosed computations before proceeding with the usual order of evaluation.

For example:

$$= (19+2) / 3$$

The sequence of evaluation will be as follows :

1. Addition =  $(19+2) / 3$

2. Division =  $(21) / 3$

3. Result = 7

## Using Cell Addresses in Formulas

So far, the formulas we have used consist solely of values and operators. Formulas can also refer to the other cells. For example, the formula

= A1 + A2 + A3

returns the sum of the values in cells A1,A2,A3

Excel offers a variety of functions that take a lot of the hard work out of creating and entering formulas. Refer back to the above formula. Instead of typing

= A1+ A2 + A3

we could use the SUM function i.e

= **SUM (A1:A3)**

for finding out the maximum value in a range of cells, the following formula should be written.

=max(Range)

similarly, for finding the minimum value

=min(Range)

for evaluating the average

=average(Range)

some other important formulas are discussed below:

the IF formula

For logical purposes like allotting Grades to students on the basis of percentage/total marks the IF function is used.

=IF(CONDITION, "OPTION 1", "OPTION 2")

Here CONDITION refers to the basis on which distinction will be made and OPTIONS refer to the grades/remarks to be given.

If the number of options is more than two then two or more IF arguments are used in the same formula.

=IF(CONDITION 1, "OPTION 1", IF(CONDITION 2, "OPTION 2", IF(CONDITION 3, "OPTION 3", "OPTION 4"))))

The number of ifs USED is ALWAYS one less than the number of options AVAILABLE.

For inserting current date and time

**=NOW()**

For counting the number of occurrence of certain text in data:

**=COUNTIF(RANGE, "TEXT")**

For calculating the future value or the maturity value of an investment:

**=FV(RATE%, PERIOD,, PRINCIPAL AMOUNT)**

For calculating the payments to be made for repayment of a loan:

**=PMT(RATE%, NUMBER OF INSTALMENTS, LOAN AMOUNT)**

For knowing the weekday "weekday" function is used.

Syntax =weekday("date of birth")

## **Copying Formulas**

You can copy formulas into a range of cells just as you can copy data into a range. To copy a formula, select the cell containing the formula and use the copy and paste command as explained earlier.

## **Totaling Rows and Columns Automatically**

One of the tasks that you need to frequently do is total rows and columns. You could create a new formula every time you needed to total a row or column, but Microsoft Excel provides an easier way. The AutoSum button on the Standard toolbar automatically creates a formula to total the rows and columns for you.

To use the AUTOSUM formula from the keyboard, press ALT = in the cell where you want the total. Excel then displays a SUM formula containing the range for which totaling will be done. If the range

is acceptable, press ENTER. The result of the AUTOSUM formula is displayed in the cell.

AutoSum can be used in three ways :

1. locate and total the rows and columns in the range nearest to the current cell, or
2. total any range you select or
3. add grand total to a range containing other totals

To automatically total the nearest range, you type the AUTOSUM formula or click AutoSum bottom and press Enter, or double click the AutoSum button.

To total a specific range, you select a range and then use the AUTOSUM command or click the AutoSum button.

When you use the AutoSum button or type in ALT = once, the formula is created, and then have the option of accepting it (by pressing Enter), or modify it.

Whichever method you use, be sure that there is a blank row and column around your data for the cells you want to total.

## **5. Formatting Data**

This chapter covers the following topics

- Formatting Data
- Changing Column Width and Row Height
- Aligning Worksheet Data
- Formatting Fonts
- Adding Borders and Colors
- Adding Number Formats & Changing Number Formats
- Formatting Dates

## Formatting Data

Excel allows you to format worksheet cells before or after you enter data. You can-

- Change the row height and column width to fit the contents of the row and columns.
- Change the font, font-size and font-style of individual characters in the cell.
- Change the alignment of text
- Change the format of numeric data
- Add borders and colors

### Changing the Column Width and Row height

When an entry is too long to be fully displayed you can remedy the situation by widening the column, To widen any column (example column A follow the instructions given below.

You can adjust several columns at once by first selecting the columns and then adjusting the width of any one of the selected columns.

Using the Format menu to change the column width

1. Select any cell in the column A. ( You need to select only one cell in a column to change the width for entire column).

2. Choose the Column command from the format menu. Then select the appropriate option from the following choices available in its sub menu.

**Width Command:** Displays the Column Width dialog box. You can enter the number 0 through 255 in the Column Width box.

**AutoFit Selection Command:** Sets the column to the minimum width necessary to display the contents of the selected cells.

**Hide Command:** hides the selected columns. The hidden column is then not displayed on the screen.

**Unhide Command:** Unhide hidden columns within the selection. To select hidden columns, select cell in the columns immediately to the left and right of the hidden one.

**Standard Width Command:** Displays the Standard Width dialog box. To return the selected columns to the standard width choose the OK button.

## Adjusting Row Height

It is similar to changing the width of columns. You can select the Row command from the Format menu, and then choose a command to

- ✓ Set a numeric row height (Height command)
- ✓ Automatically fit the row to the largest font in the row (AutoFit Command)
- ✓ Hide or unhide rows (Hide or Unhide command)

Alternatively, when you double-click the lower border of a row heading, the row-height adjusts to fit the tallest entry in the row. You can adjust several rows at once by selecting rows and then adjusting the height on any one of the selected rows.

## Aligning Worksheet Data

When you open a new sheet and begin entering data, your text is automatically left-aligned your numbers are automatically right-aligned. However you may decide to change the alignment of the text to be centered in the cells. You can easily align text to the right, left, or centre text across columns.

1. Select the cell or range that you want to change
2. Select the **CELLS** command from the **FORMAT** menu. **CONTROL + 1** is the shortcut for this command.

3. A dialog box opens. Switch to the **ALIGNMENT** tab page (**CONTROL + TAB** can be used).
4. Select from the **HORIZONTAL & VERTICAL** combo box the alignment you want for the selected data.
5. This dialog box also has the following three checkboxes:

**Wrap text-** Wraps text into multiple lines in a cell. The number of wrapped lines is dependent on the width of the column and the length of the cell contents.

**Shrink to fit-** Reduces the apparent size of font characters so that all data in a selected cell fits within the column. The character size is adjusted automatically if you change the column width. The applied font size is not changed.

**Merge cells-** Combines two or more selected cells into a single cell. The cell reference for a merged cell is the upper-left cell in the original selected range.

6. **Orientation combo box-** It can be used to change the orientation of the text that is make it inclined. It sets the amount of text rotation in the selected cell. Use a positive number in the Degree box to rotate the selected text from lower left to upper right in the cell. Use negative degrees to rotate text from upper left to lower right in the selected cell.
7. **Select** OK button to apply the changes.

To change the alignment quickly, Click the Align Left, Centre, or Align Right buttons on the Formatting toolbar.

If you want to align a title across several columns, you select the cells across which you want the text to be centered in and click the **CENTRE ACROSS COLUMNS** button on the formatting toolbar. This command is also available in the **HORIZONTAL** combo box on the **ALIGNMENT** tab discussed above.

## Formatting Fonts

you can change fonts and font size with the Font and Font Size boxes on the Formatting toolbar, or you can use the Format cells command. You can also use the Bold, Italic, or Underline button on the toolbar.

### Changing Fonts and Sizes

1. Select the cells whose font you want to change. The entire worksheet should be selected to apply the same font for the whole sheet.
2. Select the **CELLS** command from the **FORMAT** menu. Switch to **FONT TAB**.
3. select a font and font style of choice from the **FONT** combo box and **FONT STYLE** combo box.
4. The **FONT SIZE** combo box Changes the size of the selected text. The sizes available depend on the printer and the selected font.
5. This dialog box also provides choices for **UNDERLINE STYLE, FONT COLOUR & STRIKE THROUGH**.
6. Select OK to apply the changes.

### Adding Borders and Colors

You emphasize particular areas of the sheet and specific cells by using borders and colors. Borders add lines above, below, or to either side of the cell or around it, you can shade a cell in one of many patterns or colors.

The **BORDER** and **PATTERNS TABS** of the **FORMAT CELLS** dialog box (CONTROL +1) provide numerous options for making the worksheet look more attractive.

On the **BORDER TAB** page use the following.

- **BORDER STYLE:** Select an option under Style to specify the line size and style for a border.

- **COLOUR BUTTON MENU:** Select a color from the list to change the color of the selected text or object.
- **PRESET BUTTONS:** Select NONE button to remove existing border. Choose from OUTLINE, INSIDE buttons to apply border outside or the inside the edge of the cells selected.
- **BORDER CHECK BOX:** Use them to apply or remove border on any side of the selection. When the checkbox is checked (using SPACEBAR) the border is applied.

**THE PATTERNS TAB** offers the following choices:

- **PATTERN COLOUR PALETTE-** Select a color to change the background color of the selection.
- **PATTERN MENU-** Select a background color in the Color box, and then select a pattern in the Pattern box to format the selection with color patterns.

To apply borders, or colors through mouse, select the cell you want to change and then use the following buttons on the toolbar.

Border buttons

## Color buttons

### Adding Number Formats

The default number format for all cells on a new worksheet is the General format. In the General format, Excel displays numbers as integers (789), decimal fraction (7.89) or a scientific notation (7.89E+08) if the number is longer than the width of the cell. The General format displays up to 11 digits.

### Changing Number Format

You can format the numbers in a cell by using the Currency style, Percent Style, and Comma Style buttons on the toolbar. Each of these styles has a default number of decimal points that you can change with the increase Decimal and Decrease buttons.

Numbers can be formatted by either selecting the Style button on the formatting toolbar or selecting the **FORMAT CELLS COMMAND**.

The advantage of using the **FORMAT CELLS COMMAND** is that you can use more choices of number formats than you can do with the buttons on the toolbar.

## **Adding currency style**

To add currency style

1. Select the cells to be formatted
2. Select **CELLS** command in the **FORMAT** menu to open the dialog box. Change to **NUMBER TAB**.
3. It has a **CATEGORY LIST BOX**. Use it to select an option in the list, and then select the options that you want to specify with this number format. The **Sample** box shows how selected cells will look with the formatting you choose.
4. Choose currency from the list. Then specify the number of digits you want after decimal in the edit box that follows.
5. Choose a symbol for the currency from the **SYMBOL** combo box.
6. You also need to choose a format for the negative numbers from the list box. Do **OK** to apply the currency format.

Alternatively, click the currency style button on the formatting toolbar.

## **Adding percent style**

1. Select the cells to be formatted to the percent style
2. Select **PERCENT** from the **CATEGORY LIST** box(discussed above).
3. Specify the number of decimal places in the following edit box and press **OK** button.

From the mouse, click the percent style button on the toolbar. Applying the percent style causes the number .12 to be displayed as 12%.

## Formatting Dates

To format dates you would have to use **FORMAT CELLS** option and then select **DATE** from the category list. You have a variety of date options to select from.

For example, if you have entered July 5, 1994 in a cell and from the **Format Codes** list, you select **d-mmm-yy** the date would be displayed as 5-Jul-94.

## 6. Printing & Other Topics

This chapter covers the following topics:

- Previewing Worksheet
- Adding Margins
- Adding and Removing Page Breaks
- Change Print Order
- Printing a Worksheet
- Copying and Pasting Cells for Special Results
- Manipulating Sheets

### Previewing Your Worksheet

Previewing your worksheet shows you what you need to change before you print. This option is helpful because you don't waste a lot of time and paper checking to see whether the necessary rows and columns appear on the sheet.

#### To preview the worksheet:

1. Select the **Print Preview** option from the **FILE MENU** or
2. Click the **PRINT PREVIEW BUTTON** on the toolbar

3. Your sheet appears in the Preview window. You can use the Zoom button which allows you to magnify the contents of the worksheet.
4. To use the screen reader to check the preview, activate the JAWS CURSOR using **INSERT + -(DASH)**. Then use **PAGEUP** to take the cursor to the top of the window. Now read the screen using the arrow keys. This way you can get an idea of the text on the page.

## Page Setup

Before printing a worksheet, the margins, the paper size and headers and footers need to be fixed according to requirement. The **PAGE SETUP** command provides various options which are discussed below.

From the File menu, choose **PAGE SETUP**. The **PAGE SETUP** dialog box opens. It has **THE FOLLOWING** four tab pages

### Adding margins

- 1) **MARGINS TAB**: This page has the following fields.
  - a) **TOP, BOTTOM, LEFT & RIGHT margins**- These are in the form of spin boxes that is a value can be written or chosen using the arrow keys. Enter margin settings and see results in the Preview box. Adjust measurements in the Top, Bottom, Left, and Right boxes to specify the distance between your data and the edge of the printed page.
  - b) **HEADER & FOOTER**- Enter a number in the Header or Footer box to adjust the distance between the header and the top of the page or between the footer and the bottom of the page. The distance should be smaller than the margin settings to prevent the header or footer from overlapping the data.
  - c) **CENTER OF PAGE**- Center the data on the page within the margins by selecting the vertically check box, the horizontally check box, or both.
  - d) **PRINT & PRINT PREVIEW buttons**- These can be used to preview the output and then print the pages.

- e) **OPTIONS button-** Use Options to set options specific to your selected printer.
- f) **Ok & CANCEL BUTTONS-** **OK** button closes this dialog box and applies any changes you've made. **CANCEL** button closes the dialog box and does not apply any change.

## Choosing paper size

2) **PAGE TAB:** This page has options for setting the paper size and orientation. The options are-

- a) **PORTRAIT/LANDSCAPE** radio button- In portrait position the height of the page is more than the width whereas in landscape position the width is more than the height.
- b) **SCALING-** Reduces or enlarges the printed worksheet. Select the Adjust to check box, and then enter a percentage number in the % normal size box. You can reduce the worksheet to 10 percent of normal size or enlarge it to 400 percent of normal size.
- c) **Fit to** option reduces the worksheet or selection when you print so that it fits on the specified number of pages. Select the Fit to check box, enter a number in the page(s) wide by box, and enter a number in the tall box. To fill the paper width and use as many pages as necessary, type 1 in the pages(s) wide by box and leave the tall box blank.
- d) **PAPER SIZE** (combo box)- Select Letter, Legal, or other size options to indicate the size you want your document printed.
- e) **PRINT QUALITY-** Click the resolution you want to specify print quality for the active worksheet. Resolution is the number of dots per linear inch (dpi) that appear on the printed page. Higher resolution produces better quality printing in printers that support high-resolution printing.
- f) **FIRST PAGE NUMBER-** Enter Auto to start numbering pages at "1" (if it is the first page of the print job) or at the next sequential number (if it is not the first page of the print job). Enter a number to specify a starting page number other than "1."

- g) OK, CANCEL, PRINT & PRINT PREVIEW** buttons- Like the previous tab page these options are here also and perform the same functions.

## Defining print area

- h) SHEET TAB:** It is used to specify the printing area. It has the following fields.
- i) PRINT AREA (EDIT BOX)-** Click the Print area box to select a worksheet range to print, and then drag through the worksheet areas that you want to print. The Collapse Dialog button at the right end of this box temporarily moves the dialog box so that you enter the range by selecting cells in the worksheet. When you finish, you can click the button again to display the entire dialog box.
- j) ROWS TO REPEAT AT TOP & COLUMNS TO REPEAT AT TOP-** Select an option under Print titles to print the same columns or rows as titles on every page of a printed worksheet. Select Rows to repeat at top if you want specific rows as your horizontal title for each page. Select Columns to repeat at left if you want vertical titles on each page. Then on the worksheet, select a cell or cells in the title columns or rows you want. The Collapse Dialog button at the right end of this box temporarily moves the dialog box so that you enter the range by selecting cells in the worksheet. When you finish, you can click the button again to display the entire dialog box.
- k) GRID LINES (CHECK BOX) -** Select the Gridlines check box to print horizontal and vertical cell gridlines on worksheets.
- l) BLACK & WHITE (CHECK BOX) -** Select the Black and white check box if you formatted data with colors but are printing on a black-and-white printer. If you are using a color printer, selecting this option may reduce printing time.
- m) DRAFT QUALITY (CHECK BOX) -** Select the Draft quality check box to reduce printing time. When this option is selected, Microsoft Excel does not print gridlines and most graphics.
- n) ROW & COLUMN HEADINGS (CHECK BOX) -** Select the Row and column headings check box to print row numbers and column

letters in the A1 reference style or numbered rows and columns in the R1C1 reference style.

- o) COMMENT (COMBO BOX)-** Select the At end of sheet option to print comments beginning on a separate page at the end of the document. Select the As displayed on sheet option to print comments where they are displayed when you view them on the worksheet. If you click As displayed on sheet, Microsoft Excel will print only the comments that are displayed. To display all comments, click Comments on the View menu. To display an individual comment, right-click the cell that contains the comment, and then click Show Comment on the shortcut menu.
- p) PAGE ORDER(RADIO BUTTON)-** Click Down, then over or Over, then down to control the order in which data is numbered and printed when it does not fit on one page. The sample picture previews the direction your document will print when you choose one of these options.
- q) OK, CANCEL, PRINT & PRINT PREVIEW buttons-** They perform the same function as in MARGINS & PAGE tab pages.

## Header & Footers

3) **HEADER /FOOTER TAB:** It has options to create the desired header and footer for the pages to be printed.

- Select a built-in header or footer in the HEADER/FOOTER BOX. The built-in header or footer is copied to the Header/Footer dialog box where you can format or edit the selected header. Or use **CUSTOM HEADER OR FOOTER BUTTONS** to create a custom header for your worksheet.
- The CUSTOM HEADER/FOOTER button opens a dialog box. The dialog box has three sections for typing in the text of the header.
- Enter the text you want in the Left section box to display or print the header in the top-left corner of the worksheet or the footer in the bottom-left corner of the worksheet.
- Enter the text you want in the Center section box to display or print the header or footer centered at the bottom of the worksheet.
- Enter the text you want in the Right section box to display or print the header in the top-right corner of the worksheet or the footer in the bottom-right corner of the worksheet.

There are some buttons in this dialog box:

- The **FONT BUTTON** Changes the font, font size, and text style of the selected text in the Left section, Center section, or Right section box.
- Page Number button inserts page numbers in the header or footer when you print the worksheet. Microsoft Excel updates the page numbers automatically when you add or delete data, or set page breaks.
- Total Pages button inserts the total number of pages in the active worksheet and adjusts the page numbers automatically when you print the worksheet. For example, if you want to use the format "Page 1 of 12," "Page 2 of 12," and so on, clicks where you want to insert the first page number, and then click where you want to insert the total page number.
- Date button inserts the current date.
- Time button inserts the current time.
- File Name button inserts the file name of the active workbook.
- Sheet Name button inserts the name of the active worksheet.
- **OK, CANCEL, PRINT & PRINT PREVIEW** buttons are provided in this tab page also and perform the same function as discussed above.

### Inserting & Removing Page Breaks

When you print a large worksheet, page breaks are automatically added. You might not always like where you page breaks occur. If you want to insert your own page breaks at specific rows

Select a row and use the Page Break command on the Insert menu. The Page break is inserted above the selected rows.

To add a vertical page break that is to print only a particular number of columns on a page, select the column to the right of the place where you

want the page break and then select the **PAGE BREAK** command from the **INSERT** menu.

To add both vertical and horizontal page breaks, select a cell at the bottom right corner of the place where you want the page break. Then select the **PAGE BREAK** command from the **INSERT** menu. Horizontal and vertical page breaks will be inserted along the top and left borders of the selected cell.

To remove a page break added manually, you select the row below the page break, and use the Remove Page Break on the insert menu. The same should be done to remove vertical page breaks after selecting the column to the right of the page break.

### **Printing a Worksheet**

After you have setup your worksheet, you've can print them. Use the Print command from the File menu.

When you use the Print command, you can make additional choices before you print, such as select the number of copies or select the pages to print. You can also print a selected range, a selected sheet, or your entire workbook.

### **Copying and Pasting Cells for Special Results**

After you have copied cells using the Copy command, you can choose the Paste Special command from the Edit menu to select several options for pasting the copied cells

You can perform the following operations using the Paste Special dialog box:

- Paste only a cell's formula, value, format, or note by selecting an option button under Paste.
- Combine the contents of the copy and paste areas in selecting the Formulas or Values option under Paste and then, under operation , selecting the operation you want to use to combine each copied cell and its paste area

For example, if you select the subtract option button, the copied formula or value will be subtracted from the special area formula or value

- Transpose the copied rows and columns in the paste area by selecting the paste area and then selecting the Transpose check box. For example, if the data in the copy area is arranged in columns, the data will be pasted in rows.

## Creating Formulas with Relative and Fixed References

Excel follows two types of cell addresses : relative and fixed. Relative cell addresses identify cells by their position in relation to the active cells. This means that when you copy or move a formula, unless you specify otherwise, the addresses of the cells in the formula will be adjusted automatically to fit the new location .

As an example of relative addressing, suppose that you want to sum the contents of several columns of cells, but you don't want to enter =SUM() function over and over again. Only column C is summed, using the formula =SUM(C5:C8) in the cell C10. You want to add the contents of the cells in column D, E, F and G in the same manner that the contents of cells in column C were added. Copy the Formula over cells D10, E10, F10 and G10. The column address in the formula =SUM(C5:C8) changes from Column C to D,E,F and G respectively.

Fixed Cell addresses, on the other hand, refer to the fixed or absolute position of cells. Fixed addresses use dollar signs (\$) to indicate absolute position of the cells addresses. For example, the formula

=A\$1\*C3

will multiply the contents of cell C3 with that of A1. this formula if copied to other cells will only change the address of second cell that is C3 in reference to the active cell.

Mixed cell addressing refers to a combination of relative and absolute addressing. Because a cell address has two components a column and a row It is possible to fix either portion while leaving the other unfixed or relative

\$D10 Column address fixed

D\$10 Row address fixed

To change the relative address to a fixed address or absolute address, select the reference in the formula and press F4. Or you can type a dollar sign (\$) before both column and row indicators in the cell.

## **Working with Sheets**

### **- Removing Sheets**

Assuming you have 16 sheets in your workbook and you want to delete a sheet. The first thing you have to do is to make sure that the sheet you want to delete is the active sheet. Follow these steps.

1. From the Edit menu, choose Delete Sheet. A dialog box opens informing you that the sheet will be deleted permanently.
2. Choose OK to confirm the deletion. The dialog box closes and the sheet is deleted.

### **- Adding Sheets**

Just as you remove sheets from the workbook you can also add new sheets. As discussed earlier you can have a maximum of 255 sheets in a workbook. To insert a sheet before Sheet3.

1. Make sheet 3 active.
2. From the Insert menu, choose Worksheet.

A new sheet is inserted before Sheet3.

### **- Naming Sheets**

The Sheets are named as Sheet1, Sheet2, etc. To change the name of Sheet1 to a more meaningful name.

1. Select the RENAME command from inside the SHEET sub menu which is in the FORMAT menu, or alternatively, double click the Sheet1 tab. The Rename Sheet dialog box opens.
2. In the Name box, type 1994 Sales and then press Enter. Sheet1 is renamed to 1994 Sales. Sheet1 will now be renamed to 1994 Sales.

## 7. Charting Your Data

this chapter covers the following topics :

- What are charts
- Creating Charts
- Selecting the Chart type
- Modifying a chart
- Creating Charts on a Chart sheet

### What are Charts

A worksheet calculates and presents differences and similarities between numbers. It also displays the changes in numbers over time. But data by itself cannot illustrate these effectively. With Charts, you make your data visual. You can create charts in Excel using ChartWizard.

### Creating Charts

You can create charts in two ways :

- either on the same sheet as your data;
- or on a separate chart sheet in the same workbook

When you create a chart on the same sheet as your data, you can view both the data and the chart at the same time. When you create a chart on separate chart sheet in the same workbook, you still have easy access to the chart, but you can print the chart separately.

### Creating Charts

To create a chart

1. Select the data that you want to use in the chart.
2. Select CHART.. from the INSERT menu.
3. A wizard opens. It is called the chart wizard and it has four steps for creation of a chart.

## FIRST STEP

- a) The first dialog box that opens is the CHART TYPE dialog box with two tab pages, namely STANDARD TYPES & CUSTOM TYPES.
- b) In the first step you have to choose the chart type you want from the CHART TYPE LIST BOX which appears on the STANDARD TYPE TAB. A brief description of the various chart types available has been provided in the next section.
- c) Each chart type selected has few sub-types. You need to select one. The screen reader provides a description of the various sub-types.
- d) **PRESS AND HOLD TO VIEW** (button)- Previews the currently selected chart type as it looks when applied to your data.
- e) The **CUSTOM TYPES TAB** page of this dialog box can be used to create a new type of chart.

## SECOND STEP

- a) On pressing the **NEXT** button the wizard opens the CHART SOURCE dialog box. This dialog box has two tab pages, DATA RANGE & SERIES. Do the following on the DATA RANGE tab-
- b) **DATA RANGE** (edit box)- Click in the Data range box, and then select the data on your worksheet that you want to plot. If you select the data before you start the Chart Wizard, or if you change the existing source data, the range may already appear in this box. The Collapse Dialog button at the right end of this box temporarily moves the dialog box so that you enter the range by selecting cells in the worksheet. When you finish, you can click the button again to display the entire dialog box.

- c) **SERIES** (radio button)- It has two options: columns and rows. You specify in which series the data should be used for creation of the chart.
- d) **The SERIES** list box on the SERIES TAB page lists existing data series names. You can add and remove data series from the chart without affecting the data on your worksheet. You can also give names to the different series.

## THIRD STEP

- a) In the third step the **CHART OPTIONS** dialog box opens. It has six tab pages.
- b) In the **TITLES TAB** you give the title for the chart, x-axis and y-axis.
- c) In the **AXIS TAB** you specify whether you want the categories for x-axis and y-axis to be displayed.
- d) The **GRIDLINES TAB** page has options for display of gridlines on the chart.
- e) The **LEGEND TAB** provides options for placement and positioning of legend which contains the names of the series on the chart.

## FOURTH STEP

- a) The CHART Location dialog box opens in this step. Here you specify the sheet in which the chart is to be placed. You can choose (from the radio button) whether you want the chart to be placed on a particular sheet in the workbook or you want to create a separate chart sheet.
- b) The new chart sheet is added to the active workbook, to the left of the active worksheet containing the associated data. The Chart Sheets you create in a workbook are named Chart1, Chart2 and so on by default. You can rename these using the Rename Command.
- c) Press **FINISH BUTTON** to insert the chart on the worksheet.

## **Selecting the Chart type**

Excel's ChartWizard includes several chart types. The type of chart you can create depends on the data you select. Your selection can include only one data series in the chart, that is, either a single Row, or column, or it can contain multiple series multiple rows and columns.

## **Examples of chart types**

### **Area chart**

An area chart emphasizes the magnitude of change over time. By displaying the sum of the plotted values, an area chart also shows the relationship of parts to a whole.

### **Column chart**

A column chart shows data changes over a period of time or illustrates comparisons among items. Categories are organized horizontally, values vertically, to emphasize variation over time.

Stacked column charts show the relationship of individual items to the whole. The 3-D perspective column chart compares data points along two axes.

### **Bar chart**

A bar chart illustrates comparisons among individual items. Categories are organized vertically, values horizontally, to focus on comparing values and to place less emphasis on time.

Stacked bar charts show the relationship of individual items to the whole.

### **Line chart**

A line chart shows trends in data at equal intervals. The data series is plotted on the charts as points and then they are joined by lines.

### **Pie chart**

A pie chart shows the proportional size of items that make up a data series to the sum of the items. It always shows only one data series and is useful when you want to emphasize a significant element.

To make small slices easier to see, you can group them together as one item in a pie chart and then break down that item in a smaller pie or bar chart next to the main chart.

**Scatter chart**

An xy (scatter) chart either shows the relationships among the numeric values in several data series or plots two groups of numbers as one series of xy

Coordinates. This chart shows uneven intervals — or clusters — of data and is commonly used for scientific data.

When you arrange your data, place x values in one row or column, and then enter corresponding y values in the adjacent rows or columns.

**Bubble chart**

A bubble chart is a type of xy (scatter) chart. The size of the data marker indicates the value of a third variable.

To arrange your data, place the x values in one row or column, and enter corresponding y values and bubble sizes in the adjacent rows or columns.

**Surface chart**

A surface chart is useful when you want to find optimum combinations between two sets of data. As in a topographic map, colors and patterns indicate areas that are in the same range of values.

**Radar chart**

In a radar chart, each category has its own value axis radiating from the center point. Lines connect all the values in the same series.

A radar chart compares the aggregate values of a number of data series. In this chart, the data series that covers the most area, Brand A, represents the brand with the highest vitamin con

**Appendix A: Excel Application keystrokes****Keys for moving and scrolling in a worksheet or workbook****Press**

To

Arrow keys

Move one cell up, down, left, or right

**CONTROL+ ARRW key**

Move to the edge of the current data region

**HOME**

Move to the beginning of the row

**CONTROL+HOME**

Move to the beginning of the worksheet

**CONTROL+END**

Move to the last cell on the worksheet, which is the cell at the intersection of the rightmost used column and the bottom-most used row (in the lower-right corner), or the cell opposite the home cell, which is typically A1

**PAGE DOWN**

Move down one screen

**PAGE UP**

Move up one screen

**ALT+PAGE DOWN**

Move one screen to the right

**ALT+PAGE UP**

Move one screen to the left

**CONTROL+PAGE DOWN**

Move to the next sheet in the workbook

**CONTROL+PAGE UP**

Move to the previous sheet in the workbook

**CONTROL+F6 or CONTROL+TAB**

Move to the next workbook or window

**CONTROL+SHIFT+F6 or CONTROL+SHIFT+TAB**

Move to the previous workbook or window

**F6**

Move to the next pane in a workbook that has been split

**SHIFT+F6**

Move to the previous pane in a workbook that has been split

**CONTROL+BACKSPACE**

Scroll to display the active cell

**F5**

Display the Go To dialog box

**SHIFT+F5**

Display the Find dialog box

**SHIFT+F4**

Repeat the last Find action (same as Find Next)

**TAB**

Move between unlocked cells on a protected worksheet

**Keys for previewing and printing a document****CONTROL+P or CONTROL+SHIFT+F12**

Display the Print dialog box

**Work in print preview**

Arrow keys

Move around the page when zoomed in

**PAGE UP or PAGE DOWN**

Move by one page when zoomed out

**CONTROL+UP ARROW or CONTROL+LEFT ARROW**

Move to the first page when zoomed out

**CONTROL+DOWN ARROW or CONTROL+RIGHT ARROW**

Move to the last page when zoomed out

**Keys for working with worksheets, charts, and macros****SHIFT+F11 or ALT+SHIFT+F1**

Insert a new worksheet

**F11 or ALT+F1**

Create a chart that uses the current range

**ALT+F8**

Display the Macro dialog box

**ALT+F11**

Display the Visual Basic Editor

**CONTROL+F11**

Insert a Microsoft Excel 4.0 macro sheet

**CONTROL+PAGE DOWN**

Move to the next sheet in the workbook

**CONTROL+PAGE UP**

Move to the previous sheet in the workbook

**SHIFT+CONTROL+PAGE DOWN**

Select the current and next sheet in the workbook

**SHIFT+CONTROL+PAGE UP**

Select the current and previous sheet in the workbook

**Keys for entering data**

Keys for entering data on a worksheet

**ENTER**

Complete a cell entry and move down in the selection

**ALT+ENTER**

Start a new line in the same cell

**CONTROL+ENTER**

Fill the selected cell range with the current entry

**SHIFT+ENTER**

Complete a cell entry and move up in the selection

**TAB**

Complete a cell entry and move to the right in the selection

**SHIFT+TAB**

Complete a cell entry and move to the left in the selection

**ESC**

Cancel a cell entry

**BACKSPACE**

Delete the character to the left of the insertion point, or delete the selection

**DELETE**

Delete the character to the right of the insertion point, or delete the selection

**CONTROL+DELETE**

Delete text to the end of the line

**Arrow keys**

Move one character up, down, left, or right

**HOME**

Move to the beginning of the line

**F4 or CONTROL+Y**

Repeat the last action

**SHIFT+F2**

Edit a cell comment

**CONTROL+SHIFT+F3**

Create names from row and column labels

**CONTROL+D**

Fill down

**CONTROL+R**

Fill to the right

**CONTROL+F3**

Define a name

**Keys for working in cells or the formula bar****BACKSPACE**

Edit the active cell and then clear it, or delete the preceding character in the active cell as you edit cell contents

**ENTER**

Complete a cell entry

**CONTROL+SHIFT+ENTER**

Enter a formula as an array formula

**ESC**

Cancel an entry in the cell or formula bar

**CONTROL+A**

Display the Formula Palette after you type a function name in a formula

**CONTROL+SHIFT+A**

Insert the argument names and parentheses for a function after you type a function name in a formula

**CONTROL+K**

Insert a hyperlink

**ENTER** (in a cell with a hyperlink)

Activate a hyperlink

**F2**

Edit the active cell and position the insertion point at the end of the line

**F3**

Paste a defined name into a formula

**SHIFT+F3**

Paste a function into a formula

**F9**

Calculate all sheets in all open workbooks

**CONTROL+ALT+F9**

Calculate all sheets in the active workbook

**SHIFT+F9**

Calculate the active worksheet

= (equal sign)

Start a formula

**ALT+= (equal sign)**

Insert the AutoSum formula

**CONTROL+; (semicolon)**

Enter the date

**CONTROL+SHIFT+: (colon)**

Enter the time

**CONTROL+SHIFT+" (quotation mark)**

Copy the value from the cell above the active cell into the cell or the formula bar

**CONTROL+` (single left quotation mark)**

Alternate between displaying cell values and displaying cell formulas

**CONTROL+' (apostrophe)**

Copy a formula from the cell above the active cell into the cell or the formula bar

**ALT+DOWN ARROW**

Display the AutoComplete list

**Keys for formatting data**

ALT+' (apostrophe)

Display the Style dialog box

**CONTROL+1**

Display the Format Cells dialog box

**CONTROL+SHIFT+~**

Apply the General number format

**CONTROL+SHIFT+\$**

Apply the Currency format with two decimal places (negative numbers appear in parentheses)

**CONTROL+SHIFT+%**

Apply the Percentage format with no decimal places

**CONTROL+SHIFT+^**

Apply the Exponential number format with two decimal places

**CONTROL+SHIFT+ #**

Apply the Date format with the day, month, and year

**CONTROL+SHIFT+@**

Apply the Time format with the hour and minute, and indicate A.M. or P.M.

**CONTROL+SHIFT+!**

Apply the Number format with two decimal places, thousands separator, and minus sign (–) for negative values

**CONTROL+SHIFT+&**

Apply the outline border

**CONTROL+SHIFT+\_**

Remove outline borders

**CONTROL+B**

Apply or remove bold formatting

**CONTROL+I**

Apply or remove italic formatting

**CONTROL+U**

Apply or remove an underline

**CONTROL+5**

Apply or remove strikethrough formatting

**CONTROL+9**

Hide rows

**CONTROL+SHIFT+( (opening parenthesis)**

Unhide rows

**CONTROL+0 (zero)**

Hide columns

**CONTROL+SHIFT+) (closing parenthesis)**

Unhide columns

**Keys for editing data**

F2

Edit the active cell and put the insertion point at the end of the line

**ESC**

Cancel an entry in the cell or  
Formula bar

**BACKSPACE**

Edit the active cell and then clear it, or delete the preceding character in  
the active cell as you edit the cell contents

**F3**

Paste a defined name  
Into a formula

**ENTER**

Complete a cell entry

**CONTROL + SHIFT + ENTER**

Enter a formula as an array formula

**CONTROL + A**

Display the Formula Palette after you type a function name in a formula

**CONTROL+SHIFT+A**

Insert the argument names and parentheses for a function, after you  
type a function name in a formula

**F7**

Display the Spelling dialog box

**Keys for inserting, deleting, and copying a selection****CONTROL+C**

Copy the selection

**CONTROL + X**

Cut the selection

**CONTROL+V**

Paste the selection

**DELETE**

Clear the contents of the selection

**CONTROL+HYPHEN**

Delete the selection

**CONTROL + Z**

Undo the last action

**CONTROL + SHIFT+PLUS SIGN**

Insert blank cells

**Keys for moving within a selection****ENTER**

Move from top to bottom within the selection (down), or move in the direction that is selected on the Edit tab (Tools menu, Options command)

**SHIFT + ENTER**

Move from bottom to top within the selection (up), or move opposite to the direction that is selected on the Edit tab (Tools menu, Options command)

**TAB**

Move from left to right within the selection, or move down one cell if only one column is selected

**SHIFT + TAB**

Move from right to left within the selection, or move up one cell if only one column is selected

**CONTROL + PERIOD**

Move clockwise to the next corner of the selection

**CONTROL+ALT+RIGHT ARROW**

Move to the right between nonadjacent selections

**CONTROL + ALT + LEFT ARROW**

Move to the left between nonadjacent selections

**Keys for selecting data and cells****CONTROL+SHIFT+\* (asterisk)**

Select the current region around the active cell (the current region is a data area enclosed by blank rows and blank columns)

**SHIFT + arrow key**

Extend the selection by one cell

**CONTROL + SHIFT + arrow key**

Extend the selection to the last nonblank cell in the same column or row as the active cell

**SHIFT+HOME**

Extend the selection to the beginning of the row

**CONTROL+SHIFT+HOME**

Extend the selection to the beginning of the worksheet

**CONTROL+SHIFT+END**

Extend the selection to the last used cell on the worksheet (lower-right corner)

**CONTROL+SPACEBAR**

Select the entire column

**SHIFT + SPACEBAR**

Select the entire row

**CONTROL + A**

Select the entire worksheet

**SHIFT + BACKSPACE**

Select only the active cell when multiple cells are selected

**SHIFT + PAGE DOWN**

Extend the selection down one screen

**SHIFT+PAGE UP**

Extend the selection up one screen

**CONTROL + SHIFT+SPACEBAR**

With an object selected, select all objects on a sheet

**CONTROL + 6**

Alternate between hiding objects, displaying objects, and displaying placeholders for objects

**CONTROL + 7**

Show or hide the Standard toolbar

**F8**

Turn on extending a selection by using the arrow keys

**SHIFT + F8**

Add another range of cells to the selection; or use the arrow keys to move to the start of the range you want to add, and then press F8 and the arrow keys to select the next range

**SCROLL LOCK, SHIFT + HOME**

Extend the selection to the cell in the upper-left corner of the window

**SCROLL LOCK, SHIFT + END**

Extend the selection to the cell in the lower-right corner of the window

Tip When you use the scrolling keys (such as PAGE UP and PAGE DOWN) with SCROLL LOCK turned off, your selection moves the distance you scroll. If you want to keep the same selection as you scroll, turn on SCROLL LOCK first.

**Keys for selecting cells that have special characteristics****CONTROL + SHIFT+\* (asterisk)**

Select the current region around the active cell (the current region is a data area enclosed by blank rows and blank columns)

**CONTROL+/'**

Select the current array, which is the array that the active cell belongs to

**CONTROL + SHIFT + O (the letter O)**

Select all cells with comments

**CONTROL+\**

Select cells in a row that don't match the value in the active cell in that row. You must select the row starting with the active cell.

**CONTROL+SHIFT+|**

Select cells in a column that don't match the value in the active cell in that column. You must select the column starting with the active cell.

**CONTROL+[ (opening bracket)**

Select only cells that are directly referred to by formulas in the selection

**CONTROL+SHIFT+{ (opening brace)**

Select all cells that are directly or indirectly referred to by formulas in the selection

**CONTROL+] (closing bracket)**

Select only cells with formulas that refer directly to the active cell

**CONTROL+SHIFT+} (closing brace)**

Select all cells with formulas that refer directly or indirectly to the active cell

**ALT+; (semicolon)**

Select only visible cells in the current selection

**Keys for selecting charts and chart items**

Keys for selecting a chart sheet

**CONTROL+PAGE DOWN**

Select the next sheet in the workbook, until the chart sheet you want is selected

**CONTROL+PAGE UP**

Select the previous sheet in the workbook, until the chart sheet you want is selected

**Keys for selecting an embedded chart**

Note The Drawing toolbar must already be displayed. Press F10 to make the menu bar active.

Press CONTROL+TAB or CONTROL+SHIFT+TAB to select the Drawing toolbar.

Press the RIGHT ARROW key to select the Select Objects button on the Drawing toolbar.

Press CONTROL+ENTER to select the first object.

Press the TAB key to cycle forward (or SHIFT+TAB to cycle backward) through the objects until sizing handles appear on the embedded chart you want to select.

Press CONTROL+ENTER to make the chart active.

**Keys for selecting chart items****DOWN ARROW**

Select the previous group of items

**UP ARROW**

Select the next group of items

**RIGHT ARROW**

Select the next item within the group

**LEFT ARROW**

Select the previous item within the group

**Keys for menus and toolbars****F10 or ALT**

Make the menu bar active, or close a visible menu and submenu at the same time

**TAB or SHIFT+TAB (when a toolbar is active)**

Select the next or previous button or menu on the toolbar

CONTROL+TAB or CONTROL+SHIFT+TAB (when a toolbar is active)

Select the next or previous toolbar

**ENTER**

Open the selected menu, or perform the action assigned to the selected button

**SHIFT+F10**

Show a shortcut menu

**ALT+SPACEBAR**

Show the program icon menu (on the program title bar)

**DOWN ARROW or UP ARROW** (with the menu or submenu displayed)

Select the next or previous command on the menu or submenu

**LEFT ARROW or RIGHT ARROW**

Select the menu to the left or right or, with a submenu visible, switch between the main menu and the submenu

**HOME or END**

Select the first or last command on the menu or submenu

**ESC**

Close the visible menu or, with a submenu visible, close the submenu only

**CONTROL+DOWN ARROW**

Display the full set of commands on a menu

**Tip** You can select any menu command on the menu bar or on a visible toolbar with the keyboard. To select the menu bar, press ALT.

(Then to select a toolbar, press CONTROL+TAB repeatedly until you select the toolbar you want.) Press the underlined letter in the menu name that contains the command you want. In the menu that appears, press the underlined letter in the command name that you want.

**Insert an Auto Shape by using the keyboard**

1. Press ALT+U to select the AutoShapes menu on the Drawing toolbar.
2. Use the arrow keys to move to the category of AutoShapes you want, and then press the RIGHT ARROW key.
3. Use the arrow keys to select the AutoShape you want.
4. Press CONTROL+ENTER.

**Note** To edit the AutoShape, select the AutoShape, and then use the keyboard to select AutoShape on the Format menu. Select the options you want on the available tabs.

**Insert a text box by using the keyboard**

Use the keyboard to select the Text Box Button on the Drawing toolbar.

Press CONTROL+ENTER.

Type the text you want in the text box.

When you finish typing and want to switch back to the worksheet, press ESC twice.

**Note** To format the text box (add a fill color or change the size, for example) select the text box, Select Text Box on the Format menu, and then select the options you want on the available tabs.

## **Appendix B: JAWS keystrokes for Excel**

### **DESCRIPTION KEYSTROKE**

#### **Informational Keystrokes for Columns**

List cells in current column

#### **CTRL + SHIFT+C**

Read column total

#### **INSERT + NUM PAD ENTER**

Say column title

#### **ALT+SHIFT+C**

Say FIRST cell in current column

ALT + 1

ALT + 2 Say SECOND cell in current column

ALT + 3 Say THIRD cell in current column

ALT + 4 Say FOURTH cell in current column

Set column titles to row range

#### **ALT+CTRL+SHIFT+C**

Set current column to the column containing row totals

#### **CTRL+INSERT+ENTER**

#### **Informational Keystrokes for Rows**

List cells in current row

#### **CTRL+SHIFT+R**

Read row total

**INSERT+DELETE**

Say row title

**ALT+SHIFT+R**

Say FIRST cell in current row

ALT + CONTROL + 1

ALT + CONTROL + 2 SECOND cell

ALT + CONTROL + 3 THIRD cell

ALT + CONTROL + 4 FOURTH cell

Set row titles to column

**ALT+CTRL+SHIFT+R**

Set current row to the row containing column totals

**CTRL+INSERT+DELETE****Miscellaneous Informational Keystrokes**

Describe cell border

**ALT+SHIFT+B**

Lists cells at page break

**CTRL+SHIFT+B**

List cells with comments

**CTRL+SHIFT+' (APOSTROPHE)**

Read cell comment

**ALT+SHIFT+' (APOSTROPHE)**

List cells with data visible on screen

**CTRL+SHIFT+D**

List defined monitor cells

**CTRL+SHIFT+M**

List worksheets

**CTRL+SHIFT+S**

Say range of cells visible in active window

**ALT+SHIFT+V**

Read hyperlink

**ALT+SHIFT+H**

Report gridline status

**ALT+SHIFT+G**

Say active cell coordinates

**INSERT+C**

Say excel version (Excel 95 only)

**CTRL+SHIFT+V**

Say contents of focus rectangle

**INSERT+N**

Say cell font and attributes

**INSERT+F**

Say formula

**CTRL+F2**

Read spelling error and suggestion

**INSERT+F7****Navigation Keystrokes**

Move to prior screen in spreadsheet

**ALT+PAGE UP**

Move to next screen in spreadsheet

**ALT+PAGE DOWN**

Next Sheet

**CTRL+PAGE DOWN**

Prior Sheet

**CTRL+PAGE UP**

Move down to the edge of current data region

**CTRL+DOWN ARROW**

Move up to the edge of current data region

**CTRL+UP ARROW**

Move left to the edge of current data region

**CTRL+LEFT ARROW**

Move right to the edge of current data region

**CTRL+RIGHT ARROW****Selection Keystrokes**

Select column

**CTRL+SPACEBAR**

Select hyperlink

**CTRL+SHIFT+H**

Select region

**CTRL+SHIFT+8**

Select row

**SHIFT+SPACEBAR**

Select worksheet objects

**CTRL+SHIFT+O**

Collapse selection to current cell

**SHIFT+BACKSPACE****Configuration Keystrokes**

Set monitor cell

**ALT+CTRL+SHIFT+1 THROUGH 0**

Read monitor cell

**ALT+SHIFT+1 THROUGH 0**

Formula input mode

**= (EQUALS)**

AutoFilter

**CTRL+SHIFT+A**

AutoSum

**ALT+= (EQUALS)**

Date stamp

**CTRL+; (SEMICOLON)**

Time stamp

**CTRL+SHIFT+; (SEMICOLON)**

Close Office Assistant

CTRL+INSERT+F4

ALT+SHIFT+V

Read hyperlink

ALT+SHIFT+H

CTRL+SHIFT+O