

EXCEL

OBJECTIVES

After studying this chapter, the student should be able to

- ↳ Understand the components of MS-Excel
- ↳ Describe the editing and formatting options of worksheets
- ↳ Understand the application of financial and statistical functions
- ↳ Analyze and organize data using automatic subtotals

INTRODUCTION TO SPREADSHEET

Spreadsheet is a grid of rows and columns. Each spreadsheet contains many rows and columns. This makes many cells. Each cell can hold either text or numbers or formula. The rows are numbered numerically like 1, 2, 3, ..., etc. The columns are labeled alphabetically like A, B, C, ..., etc. After Z it starts like AA, AB, AC, ..., etc. Standard spreadsheet programs are

1. Lotus 1-2-3
2. MS-Excel

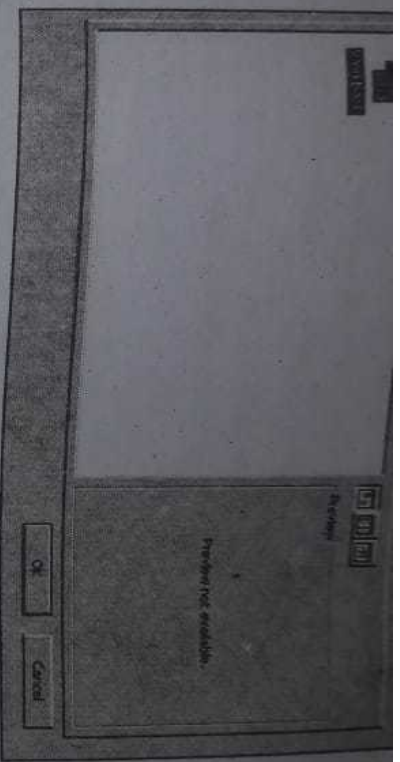


Figure 4.2

3. Click "OK".

Entering Data in a Worksheet

There are two types of data entries in a cell. They are

- i. Constants
- ii. Formulas

A constant can be a numeric value, text value, date or time. A formula is a mathematical operation that performs a calculation using other existing values in a worksheet.

Entering a constant

- > Select the cell.
- > Enter the data constant in that cell.
- > Press "Enter" key or "Arrow" key or click the mouse in another cell.

Entering a formula

- > Select the cell.
- > Type equal sign and then type the formula in the cell or in the formula bar.
- > Press "Enter" key or "Arrow" key or click the mouse in another cell.

EDITING WORKSHEETS

Editing a Constant

- i. Double click the cell where we want the change.
- ii. Press backspace key or delete key to delete the character.
- iii. Type the characters to be added.
- iv. Press "Enter" key to accept this change.

Editing a Formula

- i. Select the cell where we want the change.
- ii. Click the formula bar. Now the cell is in edit mode.
- iii. Use backspace key or delete key to delete the character. Type the characters to be added.
- iv. Press "Enter" key to accept this change.

FORMATTING WORKSHEETS

Format menu is used to format the cells. If we click "Cells" in format menu, the window that appears is shown in Figure 4.1

This window has six tabs. They are

- 1. Number
- 2. Alignment
- 3. Font
- 4. Border
- 5. Pattern
- 6. Protection

Number Tab

It is used to format the numeric data in the cell. Figure 4.3 shows the number tab of the format cells window.



The Table 4.1 shows the

Format Category	Description
General	Displays values
Number	Displays with t
Currency	Displays with t
Date	Displays with t
Time	Displays in dat

Data series It is a collection of related values that are plotted on the chart.

Legends Legends are labels and colors or patterns that identifies each data series.

Category It is an item that represents a data series.

Gridlines These are lines drawn across the chart from the axes for visual reference.

Title Every chart has chart title and axes titles for each axes.

Types of Chart

Column It uses vertical bars for representing data.

Bar It uses horizontal bars for representing data.

Line It represents relationship between data using lines.

Pie Displays the contribution of each data in the form of pie slices.

XV (Scatter) Used to illustrate the relationships among the numeric values in several data series.

Area It shows the relationship with shaded colors.

Doughnut It shows the relationship in the form of rings.

Radar Data points are represented as symbols around a central point.

Surface It is used to find optimum combinations between two sets of data.

Bubble It shows the data in the form of bubbles in different colors.

Stock Used to illustrate stock prices.

Cylinder It represents the data using cylinder bars.

Cone It represents the data using cone bars.

Pyramid It represents the data using pyramid bars.

Protection

Cancel

It is used to
comparisons

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APPLICATION OF FINANCIAL AND STATISTICAL FUNCTIONS

Financial Functions

Functions	Uses
ACCRINT	Returns the periodic interest
ACCRINTM	Returns the interest at maturity
DB	Returns the depreciation of an asset using fixed declining balance method
SLN	Returns the depreciation of an asset using straight line method
SYD	Returns the depreciation of an asset using years digits method
FV	Returns the future value of an investment
DISC	Returns the discount rate
PV	Returns the present value of an asset
RATE	Returns the interest rate
PPMT	Returns the payment of the principle for an investment for a given period

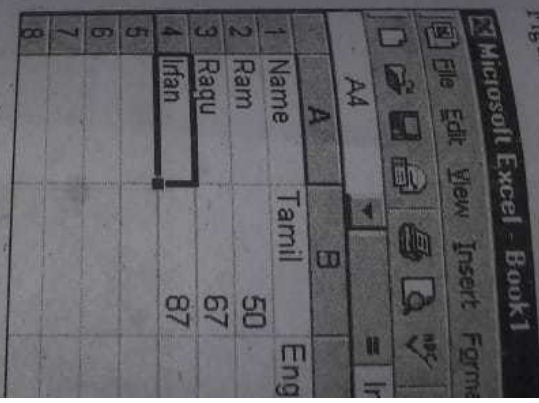
Statistical Functions

Functions	Uses
AVERAGE	Returns the average of its arguments
COUNT	Counts the number of data in the list
COVAR	Returns covariance
DEVSQ	Returns the sum of square of deviations
FISHER	Returns the fisher transformation
FISHER INV	Returns the inverse of fisher transformation
GEOMEAN	Returns the geometric mean

LARGE	Returns the
MAX	Returns the
MIN	Returns the
SMALL	Returns the

LIST

A series of worksheet rows that
Figure 4.16 shows a list.



Creation of List

- i. Type the column title
- ii. Enter the data under

SORTING DATA

- The following steps are needed
1. Select the data that are needed
 2. Click the "Data" menu.

STATISTICAL FUNCTIONS

Uses

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Uses

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 of data in the list
 square of deviations
 transformation
 of fisher transformation
 mean

Functions	Uses
LARGE	Returns the Kth largest value in the data set
MAX	Returns the maximum value in the data set
MIN	Returns the minimum value in the data set
SMALL	Returns the Kth smallest value in the data set

LIST

A series of worksheet rows that contain related data is called list.
 Figure 4.16 shows a list.

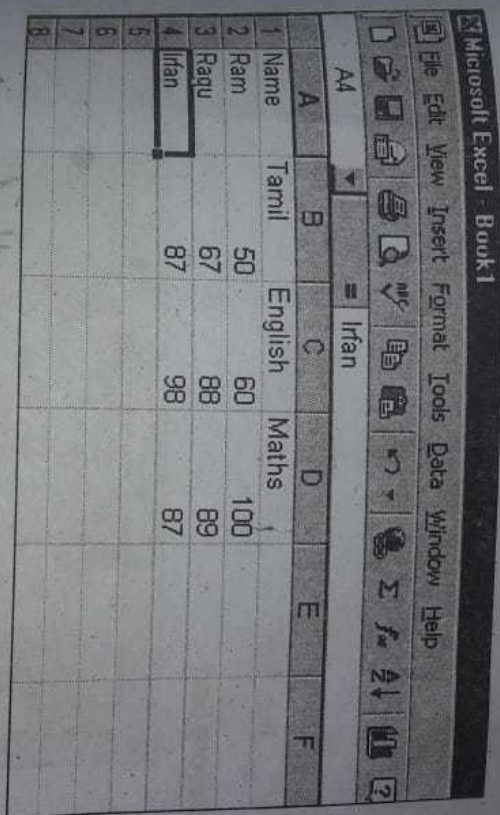


Figure 4.16

Creation of List

- i. Type the column title as a row.
- ii. Enter the data under each column.

SORTING DATA

- The following steps are needed to sort the given set of data.
1. Select the data that are to be sorted.
 2. Click the "Data" menu.

- iii. Point "Office 2000"
- iv. Click "Excel 2000"

(or)

Double click MS-Excel icon on the Desktop.

What is on the Screen?

The Figure 4.1 shows the screen of Excel.

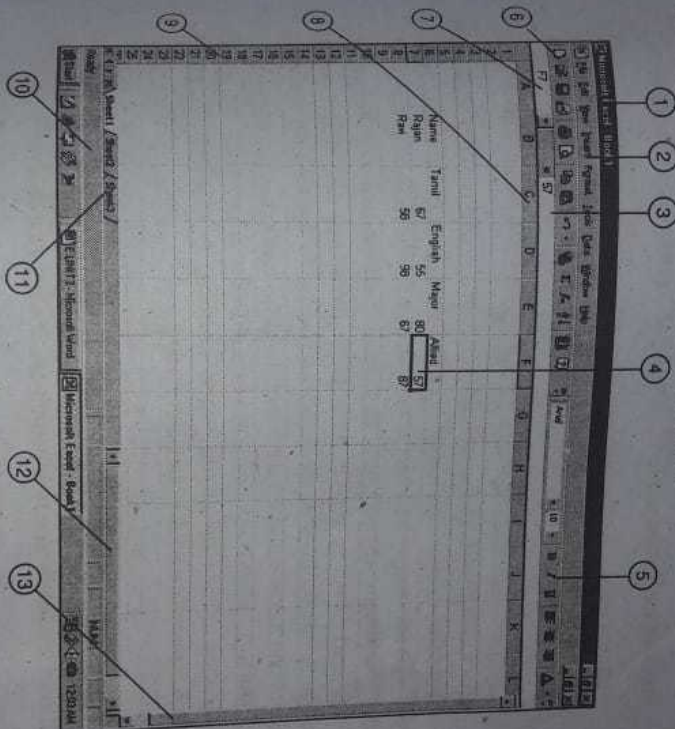


Figure 4.1

- 1. Title bar
- 2. Menu bar
- 3. Formula bar
- 4. Active cell
- 5. Standard toolbar
- 6. Column headings
- 7. Row headings
- 8. Status bar
- 9. Worksheet tabs
- 10. Horizontal scrollbar
- 11. Vertical scrollbar

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Title bar It shows the workbook title.

Menu bar It shows various menus of Excel.

Formula bar Used for entering formula.

Formatting toolbar Used for paragraph alignments, font style, and colour setting.

Standard toolbar Used for saving, opening, printing of files.

Active cell address It shows the address of the active cell.

Status bar It shows the "Enter" or "Ready" mode of a cell.

Worksheet tabs Used to choose required worksheet.

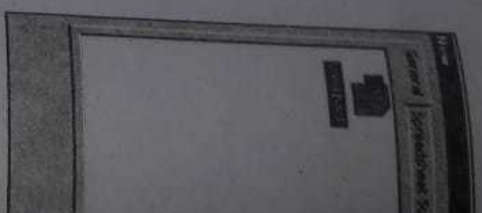
Scroll bar Used for vertical and horizontal scrolling.

In a worksheet, there are 256 columns and 65,536 rows. The rectangle formed at the junction of each row and column is called a "cell". To identify each cell Excel uses an address. It is formed by taking the letter at the top of the cell's column and the number at the left end of its row. A1, A10, B20 are some example is of addresses. A heavy border designates the active cell. The name box displays the address of an active cell. A cell can contain upto 32,000 characters. A workbook consists of a set of worksheets. Normally, a workbook contains three work sheets. A worksheet can be inserted in a workbook when required.

CREATING A WORKSHEET

The following steps are needed to create a worksheet.

1. Select the "File" menu.
2. Choose the "New" option. The window that appears is shown in Figure 4.2.



3. Click "OK".

Entering Data in a

There are two types

- i. Constants
- ii. Formulas

A constant can be formula is a mathem using other existing

Entering a constant

- > Select the cell.
- > Enter the data co
- > Press "Enter" key

Entering a formula

- > Select the cell.
- > Type

Applications of Spreadsheet

Spreadsheets are used to

- i. Maintain accounts.
- ii. Create charts for the analysis of data in management reports.
- iii. Perform financial calculation for making financial reports.
- iv. See the data in different view by using filters.
- v. Create various types of account statements.
- vi. Do billing easily.
- vii. Do cost analysis easily.
- viii. Do sales analysis easily.
- ix. Do tax calculation.
- x. Prepare annual reports.

Features of MS-Excel

- i. Simple list can be created easily.
- ii. Import of data from databases like FOXPRO, ORACLE etc. is possible.
- iii. Creation of charts and reports.
- iv. Entering, editing, and copying formulae are very easy.
- v. The data can be e-mailed without leaving Excel.
- vi. Anyone can view the worksheet data using a web browser.
- vii. Table handling is more flexible.
- viii. Formatting cells is simpler and faster.
- ix. It is suitable to create high impact reports.
- x. It is easy to learn.

Starting Excel 2000

- i. Click "Start" button
- ii. Point "Programs"

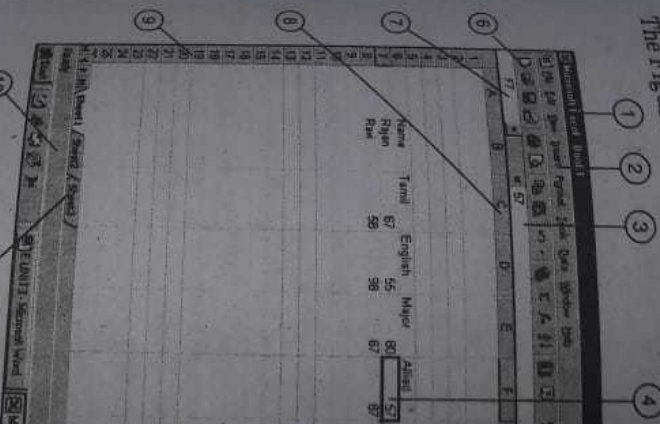
- iii. Point "Office 2000"
- iv. Click "Excel 2000"

(or)

Double click MS-Excel icon on

What is on the screen?

The Figure 4.1 shows the screen



Figure

1. Title bar
2. Formula bar
3. Formatting toolbar
4. Active cell address
5. Row headings
6. Worksheet tabs
7. Vertical scrollbar
- 8.
- 9.
- 10.
- 11.
- 12.