CHAPTER # 09

SPREADSHEET   pakcity.org

SPREADSHEETS:

Traditionally, it was simply a grid of rows and columns, printed on special light-green paper, that was used to produce financial projections and reports. A person making up a spreadsheet spent long days and weekends at the office penciling tiny numbers into countless tiny rectangles. When one figure changed, all other numbers on the spreadsheet has to be recomputed.

In the late 1970s, Daniel Bricklin, a student at the Harvard Business School created the first electronic spreadsheet, now called simply a spreadsheet.

The spreadsheet allows users to create tables and financial schedules by entering data and formulas into rows and columns arranged as a gird on a display screen.

Unfortunately for Bricklin, his version (called VisCalc)was quickly surpassed by others. Today the principal spreadsheets are:

★ A worksheet is a single table
★ A workbook is a collection of related worksheets

Thus, within your Microsoft Excel spreadsheet file, you might have one workbook headed Checkbook, which would contain worksheets with the history of your checking account for the years 2001, 2002, and so on. You might have another workbook headed Credit cards, containing worksheets for each year.

WORKING & SPREADSHEETS:

A spreadsheet is arranged as follows:

How a spreadsheet is organized – column headings, row headings, and labels

In the worksheet"s frame area (work area), lettered column heading appear across the top ("A" is the name of the first column, "B" the second, and so on). Numbered row headings appear down the left side ("1" is the name of the first row, "2" the second, and so forth). Labels are any descriptive text, such as APRIL, RENT, or GROSS SALES. You use your computer"s keyboard to type in the various headings and labels.

Where columns and rows meet – cells, cell addresses, ranges, and values

A cell is the place where a row and a column intersect; its position is called a cell address. For example, "l" is the cell address for the top left cell, where column A and row 1 intersect.

A range is a group of adjacent cells – for example, A1 to A5. A number or date entered in a cell is called a value. The values are the actual numbers used in the spreadsheet – dollars, percentages, grade points, temperatures, or whatever. Headings, labels, and formulas also go into cells. A cell pointer, or spreadsheet cursor, indicates where is to be entered. The cell pointer can be moved around like a cursor in a word processing program.

Why the spreadsheet has become so popular – formulas, functions recalculation, and what-if analysis.

Now we come to the reason the electronic spreadsheet has taken offices by storm. Formulas are instructions for calculations. For example, a formula might be @SUM (A5:A15) meaning Sum (that is, add) all the numbers in the cells with cell addresses A5 through A15.

Functions:

Functions are built-in formulas that perform common calculation. For instance, a function might average a range of numbers off a number to two decimal places.

After the values have been entered into the worksheet, the formulas and functions can be used to calculate outcomes. However, what was revolutionary about the electronic spreadsheet was its ability to easily do recalculation.

Recalculation:

Recalculation is the process of re-computing values, either as an ongoing process as data is entered of afterward, with the press of a key.

With this simple feature, the hours of mind-numbing work required to manually rework paper spreadsheets became a thing of the past.

The recalculation feature has opened up whole new possibilities for decision making, in particular, what-if analysis.

What-if Analysis:

What if-analysis allows the user to see how changing one or more numbers changes the outcome of the recalculation.

Using worksheet templates – pre-arranged forms for specific task:

You may find that your spreadsheet software makes worksheet templates available for specific tasks. Worksheet templates are forms containing formats and formulas custom-designed for particular kinds of work.

Examples are templates for calculating loan payments, tracking travel expenses, monitoring personal budgets, and keeping rack of time worked on projects.

Templates are also available for a verity of business needs – providing sales quotations, invoicing customers, creating purchase orders, and writing a business plan.

Analytical Graphic: Creating Charts:

You can use spreadsheet packages to create analytical graphics, or charts. Analytical graphics, or business graphics, are graphical forms that make numeric data easier to analyze than when it is organized as rows and columns of numbers. Whether viewed on a monitor or printed out, analytical graphics help make sales figures, economic trends, and the like easier to comprehend and analyze.

The principal examples of analytic graphics are bar charts, line graphs, and pie charts.

Database Software:

In its most general sense, a database is any electronically stored collection of data in a computer system. In its more specific sense, a database is a collection of interrelated files in a computer system.

These computer-based files are organized according to their common elements, so that they can be retrieved easily. Sometimes called a database manager or database management system (DBMS), database software is a program that sets up controls the structure of a database and access to the data.

The Benefits of Database Software:

When data is stored in separate files, the same data will he repeated in many files. In the old days, each college administrative office-register, financial acid, and so on-might have a separate file on you. Thus, there was redundancy – your address, for example, was repeated over and over. The advantage of database software is that data is not in separate files rather it is integrated. Thus, your address need only be listed once, and all the separate administrative offices will have access to integrity. That is, the information is more likely to be accurate and up to date.

Databases are a lot more interesting than they used to be. Once they included only text. Now they can also include pictures, sound, and animation. It"s likely, for instance, that your personnel record in a future company database will include a picture of you and perhaps even a clip of your voice. If you go to

looking for a house to buy, you will be able to view a real estate agent‟s database of video clips of homes and properties without leaving the realtor‟s office.

Today the principal microcomputer database programs are:

★ Microsoft Access
★ Corel Paradox
★ Lotus Approach
★ Oracle (For large Systems)

Features of Databases:

Let‟s consider some basic features of databases:

How a relational database is organized – tables, records, and fields

The most widely used form of database, especially on PCs, is the relational database in which data is organized into related tables. Each table contains rows and columns; the rows are called records, and the columns are called fields. An example of a record is a person‟s address-name, street address, city, and so on. An example of a field would be that person‟s first name, a third field would be that person‟s street address, and so on.

How various records can be linked – the key field

The records within the various tables in a database are linked by a key field, a field that can be used as a common identifier because it is unique. The most frequent key field used in the United States is the Social Security number, but any unique identifier could be used, such as employee number.

Finding what you want – querying and displaying records

The beauty of database software is that you can locate records quickly. For example, several offices at your college may need access to your records, but for different reasons: the register, financial aid, student housing, and so on. Any of these offices can query records (locate and display records) by calling them up on a computer screen for viewing and updating. Thus, if you move, your address field will need to be corrected for all relevant offices of the college. A person making a search might make the query, "Display the address of (your name). Once a record is displayed, the address field can be changed. Thereafter, any office calling up your file will see the new address.

Sorting and analyzing records and applying formulas:

With database software you can easily find and change the order of in a table. Normally, records are displayed in a database in the database in the same order in which they are entered. However, all these records can be sorted in different ways – arranged alphabetically, numerically, geographically, or in some other order. For example, they can be rearranged by state, by Social Security number.

In addition, database programs contain built-in mathematical formulas so that you can analyze data. This feature can be used, for example, to find the grade-point averages for students in different majors or in different classes.

Putting search results to use – saving, formatting, printing, copying or transmitting:

Once you‟re queried, sorted, and analyzed the records and fields, you can simply save them to your hard disk or to a floppy disk. You can format them in different ways, altering headings and type styles. You can print them out on paper as reports, such as an employee list with up-to-date addresses and phone numbers. You can use the copy command to copy your search results and then paste them into a paper produced on your word processor. You can also cut and paste data into an e-mail message or make the data an attachment file to an e-mail, so that it can be transmitted to someone else.

Personal Information Manager PIM

A personal information manager (PIM) is software to help you keep track of and manage information you use on a daily basis, such as addresses, telephone numbers, appointments, to-do lists, and miscellaneous notes.

Some programs feature phone dialers, outliners (for roughing out ideas in outline form), and ticklers (or reminders). With a PIM, you can key in notes in any way you like and then retrieve them later based on any of the words you typed.

Popular PIMs are:
  ★ Microsoft Outlook
  ★ Lotus Organizer
  ★ Act

Microsoft Outlook, for example, has sections labeled Inbox, Calendar, Contacts, Tasks (to-do list), Journal (to record interactions with people), Notes (scratchpad), and Files.