FLOWCHARTS

Flowcharts are used to represent algorithms and pseudocodes graphically. A flowchart is a schematic graphical or pictorial representation of a process. It is commonly used in any profession to make presentations that will help the audience visualize the content better, or to find flaws in the process.

The essential thing in flowcharts has been summarized in the name words: "flow" and "chart". "Chart" means graphical representation and "flow" essentially tells one of the process that is been represented in the flowchart. If there are just links between the flowchart symbols used in flowcharting and the links have no means of showing the direction of the flow of process then the flow essence of the flowchart is destroyed.

Examples of processes that can be represented using a flowchart includes the processes of an automobile work plant, the processes of a bicycles assembly, the processes of the scientific enquiry, etc. It looks not only at "who," but also at "what," "why" and "how" an activity or process is accomplished. It is an important process mapping tool to use during the design phase of a process – reengineering project.

Flowcharting

Flowcharts are tools commonly used in business to show the pictorial flow of a process from its inception to its completion. A flowchart is a diagram made up of boxes, diamonds, and other shapes connected by arrows. Each shape or symbol represents a step in the process and each arrow shows the order in which each step or activity occurs. In *Business Process Analysis*, these symbols can be broken down into four categories: input/output, processing, storage and flow of events.

There are different types of flowchart that can be developed for different business situations:

1. Document Flowcharts: illustrate the flow of documents and information between areas of responsibility – track documents from beginning to end.

2. Internal Control Flowcharts: describe and evaluate internal controls.
3. System Flowcharts: depict the relationship between the input, processing and output of an information system.
4. Program Flowchart: illustrates the sequence of logical operations performed by a computer in executing a program.
5. Computer Configuration Flowchart: depicts the arrangement of hardware components in a computer system.

Flowchart Symbols

To construct a flowchart, you must know the symbols and their related meanings. These symbols are standard globally for flowcharting. Symbols are used to represent functions. These fundamental functions are processing, decision, input/output, terminal, flow lines, and connector symbols. All flowcharts may be initially constructed using only the fundamental symbols as a rough outline to work from. Each corresponds to one of the functions of a computer and specifies the instruction(s) to be performed by the computer. The contents of these symbols are called *Statements*.

1. Process Symbol: it is used to represent general functions not represented by other symbols. It depicts the process of operations resulting in a change of value, form or location or information. It is a *square* or *rectangle*.
2. Input/Output Symbol: it is used to represent any function of an input or output device. Making information available for processing is an input function. Recording processed information is an output function. The shape of this symbol is *rhombus*.
3. Decision Symbol: it is used to depict a point in a program at which a branch to one of two or more alternative paths is possible. The shape of this symbol is *kite*.
4. Terminal, Interrupt: it is used to represent a terminal point in a flowchart. For example, *start, stop, halt, delay* or *interrupt*. Its shape is *oval*.
5. On page connector: this represents a junction in a line of flow to another part of the flowchart within the same page of the flowchart

design. A common identifier, such as an alphabetic character, number, or mnemonic label, is placed within the *exit point* and its associated *entry point*. Its shape is *circle*.

6. Off page Connector: this represents a junction in a line of flow to another part of the flowchart in two or more different pages of the flowchart design. A common identifier, such as an alphabetic character, number or mnemonic label, is placed within the *exit point* and its associated *entry point*. Its shape is a *pentagon*.
7. Flow line: it is used to represent flow directions by line drawn between symbols. Normal direction of flow is from left to right and from top to bottom. It is still very important to use arrowheads to indicate the flow of process mostly where the direction of flow is other than normal.