

Q. 4. Answer in detail (Any Two) (20)

1. What is a C program?
2. Explain the basic building blocks of a computer in detail.
3. What is system software?
4. Explain operators in C

Q. 5. Case study (15)

Before you start coding a program it is necessary to plan the step by step solution to the task your program will carry out. Such a plan can be symbolically developed using a diagram. This diagram is then called a flowchart. Hence a flowchart is a symbolic representation of a solution to a given task. A flowchart can be developed for practically any job. Flowcharting is a tool that can help us to develop and represent graphically program logic sequence. It also enables us to trace and detect any logical or other errors before the programs are written. Computer professionals use two types of flowcharts -1. Program Flowcharts.2. System Flowcharts

Program Flowcharts are used by programmers. A program flowchart shows the program structure, logic flow and operations performed. It also forms an important part of the documentation of the system. It broadly includes Program Structure, Program Logic, Data Inputs at various stages, Data Processing, Computations and Calculations, Conditions on which decisions are based, Branching & Looping Sequences, Results, Various Outputs. The emphasis in a program flowchart is on the logic. System flowcharts are used by system analyst to show various processes, sub systems, outputs and operations on data in a system. In this course material we will be discussing program flowcharts only. Flowcharting has many standard symbols. Flowcharts use boxes of different shapes to denote different types of instructions. The actual instruction is written in the box. These boxes are connected with solid lines which have arrowheads to indicate the direction of flow of the flowchart. The boxes which are used in flowcharts are standardized to have specific meanings. These flowchart symbols have been standardized by the American National Standards Institute. Terminal Symbol: Every flowchart has a unique starting point and an ending point. The flowchart begins at the start terminator and ends at the stop terminator. Input/output Symbol is used to denote any input/output function in the program. A process symbol is used to represent arithmetic and data movement instructions in the flowchart. All arithmetic processes of addition, subtraction, multiplication and division are indicated in the process symbol. The decision symbol is used in a flowchart to indicate the point where a decision is to be made and branching done upon the result of the decision to one or more alternative paths.

Answer the following terms.

1. Program Flowchart
2. System Flowcharts
3. Terminal symbol
4. Process symbol
5. Decision symbol