**Lesson-1 (The programming Process)**

1. What is meant by computer program?

A computer program consists of a group of instructions for a computer that cause it to perform a desired task. The computer program is means to an end. The end will normally be defined as information that is needed to solve the problem.

1. Named the activities of programming process?

The programming process consists of the following activities:

* + Define the problem
  + Preparing an algorithm
  + Preparing a program flowchart
  + Coding the program
  + Debugging and testing
  + Documenting

1. What do you mean by Algorithm?

An algorithm is a description of the sequence of steps required to solve the problem.

1. What is meant by initial algorithm?

An initial algorithm much of what we human beings do requires little conscious thought because we use our past experience. This makes it difficult at first for us to define a sequence of very simple steps that will make this machine we call the computer do what we want.

1. What is meant by refining the algorithm?

Refine the algorithm takes care of one number but we are supported to process a list of numbers. Let us assume that the computer will get its list of numbers one at a time.

1. What does it meant by flowchart?

Flowchart is a symbolic representation of our algorithm. The presentation of the programs flowchart consists of translating the algorithm into a form in which the steps are shown by a set of outlines which has been adopted as a standard by the American National Standard Institute (ANSI).

1. Write some flowchart guidelines.

Some flowchart guidelines are as follows:

* A flowchart should be read the way a printed page is read.
* Every program flowchart starts with a single terminal outline and ends with one or more terminal outlines.
* The word used in the flowchart must be meaning full for every one.
* Each exit from a decision outline should be labeled with the appropriate condition

1. What is meant by High-level language?

High-level language the languages that are most widely used type because they are relatively easy to learn. The resulting programs are generally easy to understand and modify.

1. Write a short note about BASIC, COBOL, FORTRAN. Pascal and RPG II Language.

**BASIC:** BASIC means “Beginner’s All-purpose Symbolic Instruction Code”, an easy to learn and easy to use language that was originally developed for students to use in solving algebraic problems. But it is used for processing business data also.

**COBOL:** COBOL means “Common Business Oriented Language”. This language is design for business data processing. COBOL was originally used for large computer but now available even on some personal computers.

**FORTRAN:** FORmula TRANslator: This is design for mathematical problem solving. It is available on most computers.

**Pascal:** A general purpose programming language that is design with the needs of structured programming in mind. Pascal is available on most computers.

**RPG II:** It is meant by Report Program Generator. It is very powerful and relatively easy to learn

1. What is meant by DESK-CHICKING of an Algorithm?

After create the Algorithm we prepare the program flowchart. Before prepare the flowchart we should to check the algorithm is correct or not. Then we can check our algorithm by making up a list of numbers and seeing what happens when we attempt to process this list with our algorithm. This is called DESK-CHECKING of algorithm.

**Lesson-2 Introduction to Structured Programming**

1. What is structured programming?

The structured programming is a collection of techniques for the planning and writing of programs that increases programmer productivity i.e., top-down programming and the use of loop, selection and sequence structure.

1. What are the benefits of structure programming?

The benefits of structure are as follows:

* + Programs that meet the needs of the customers.
  + Though initially take longer time to generate code, often result in code with runs with no bugs the first time it runs
  + Easy to handle change in program specifications in the future

1. What is meant by sub-routine?

Sub-routine is a set of instructions for performing a particular task that can be called when needed. Sub-routine may be two types as internal and external subroutine.

1. What do you mean by modular programming?

In modular programming, the program is broken down into modules, each of which performs a single, limited function and is written and debugged separately from other modules.

1. What is internal subroutine?

An internal subroutine is a part of the program. The task performed by the subroutine may be one that is required at more than one place in the program, but the code appears in the program only once.

1. What is external subroutine?

External subroutine are used for tasks that more than one program is likely to want performed. The term “external” is used because the instructions for doing the processing will not be part of the program using the routine.

1. What is meant by sequence structure?

In the sequence structure, instructions are executed in the order in which they are encountered. The only way to enter a sequence is at the top and the only way to exit from it is at the bottom.

1. What is meant by pseudo code?

Pseudo code is a recognized alternative to flowcharting for planning structured programs. Pseudo code is used to show the details of the processing taking place in program modules. There are no generally accepted standards for pseudo code.

1. What is meant by structure chart?

Structure chart is a tool to use in the top-down planning of a structured program that shows the modules that comprise the program and also shows the modules called by each module.

**Lesson-3**

1. ***What is meant by Boolean algebra?***

Boolean algebra is a form of algebra in which symbols have the values of either “true” or “false” and are subject to the operations AND, OR and NOT. It is also known as Boolean logic. When we deal with combinations of conditions, it is sometimes convenient to use Boolean algebra.

1. ***What is meant by truth table?***

Truth table is a tool for analyzing all possible combinations of values of a Boolean expression. The truth table is commonly used to represent the possible values of combination of condition.

1. ***What is meant by sequence checking?***

Sequence checking is a method for verifying that a file is in order by comparing key fields of consecutive records.

1. ***What can we do if sequence error encounter?***

If we find a sequence error encounter we will:

* Display an error message and terminate processing immediately.
* Display an error message and wait for the operator to take some corrective action.
* Make a record of the error so that it can be corrected later; then continue processing, ignoring the erroneous record.

1. ***What does it mean by sentinel value?***

The sentinel value is a predetermined value that is placed in a dummy record at the end of the data file. This value is usually placed in the key field position in the dummy record.

1. ***What is meant by counter?***

A counter is a device for recording the number of times something occurs. The counter technique requires that the number of data records to be read be known in advance.

**Lesson-4 Complex Combinations of Conditions**

***1: What is Decision Table?***

Decision table is a tool for planning and documenting processing that involves complex combinations of conditions. Decision tables show us what is to be done, under what conditions, and in what order. Decision table can be used to show all the processing required in a program.

***2: what is meant by redundancy?***

Redundancy is a situation in which more than one rule of a decision table may be applied for a given combination of condition. Redundancy exists when there are more rules than are necessary. We can identify redundancy as follows:

* Look for two rules that have the same actions.
* Then if all condition entries but one are exactly the same, there is redundancy between the two rules.

***3: what is meant by contradiction?***

Contradiction is a in a decision table in which the same combinations of conditions lead to different actions. Contradictions seem to occur much less often than redundancies in developing decision tables.

***4: what is meant by Extended-Entry and Mixed-Entry table?***

It is possible to move part of the condition from the condition stub to the condition entries, and part of the action from the action stub to action entries. Such a table is known as an extended –entry decision table. A decision table may also contain mixture of extended and limited entries, in which case it is a mixed-entry table.