

ARTICLE TITLE:

“Computer Programming and Its Types”

WHAT IS COMPUTER PROGRAMMING?

Computer Programming is the procedure of designing and developing a feasible computer code to attain a certain computing result.

Programming involves functions such as: Analysis, Generating Algorithms, Profiling algorithms, Accuracy and Resource Consumption, and the Implementation of Algorithms in a specific Programming Language. This is carried out by one or more languages that may be desirable for the coder, rather than binary machine understandable code, which is instantaneously processed and compiled by the Central Processing Unit (CPU).

The motive of programming is to gain a sequence of rules and commands that can automate the performance of a task on a computing device, usually for solving a given problem. The approach of programming thus often necessitate brilliance and proficiency in various different subjects, including know-how of the application domain, specialized algorithms, and literary logic.

TYPES OF COMPUTER PROGRAMMING:

There are several types of computer programming that reflect the different flavors of executing the tasks related to technical and computational field.

The types are named and defined as under:

- 1) Imperative Programming
- 2) Declarative Programming
- 3) Functional Programming

4) Procedural Programming

5) Object Oriented Programming

>> Imperative Programming:

Imperative Programming is a pattern of computer programming in which the program recounts a sequence of steps, due to which a particular state and position of the workflow of computer varies. Imperative Programming explicitly makes aware to the computer "How" to execute and attain a certain job.

Computer programs written this way generally compile to binary executables that work more effectively and orderly, this is due to a fact that all CPU instructions and commands are themselves imperative statements.

>> Declarative Programming:

Declarative Programming refers to writing the commands and codes in such a way that it could describe what you actually want your machine to perform, rather than how you want to. It is left up to the compiler that how it executes that particular task you require. The Declarative Programming approach helps to explicate the programming behind some parallel processing applications. Prolog, SQL .etc are the examples of Declarative Programming Languages.

>> Functional Programming:

Functional Programming is a programming paradigm in which every single task that we want our computer to execute is bounded by the mathematical functions. It follows both the approaches i.e of Imperative Programming as well as Declarative Programming. This is because it focuses on both, "What to solve" and "How to solve".

These functions have two salient characteristics. First, they always conclude the same output for same arguments irrespective of anything else. Secondly, there

isn't any kind of side-effect i.e. they do alter any of the arguments or global variables or output something.

>> Procedural Programming:

Procedural Programming is a type of computer programming that follows a linear top-down approach and handles data and procedures as two unlike units. Based on the conceptualization of a procedural call, the Procedural Programming technique divides the program into procedures, which are usually referred to as Routines or Functions, simply, having a series of steps and operations to be carried out.

>> Object-Oriented Programming:

The Object-Oriented Programming, often referred as OOP, is a computer programming archetype that regulates the software architecture around data, or objects, rather than functions and logic. An object is described as a data field that has distinctive attributes and behavior. It is also referred as an instance of a class as the class shares the similar properties among its particular objects. There are four pillars of Object Oriented Programming (OOP) paradigm, namely, Abstraction, Encapsulation, Inheritance and Polymorphism. Python, Java, JavaScript .etc are the best examples of Object Oriented Programming (OOP) Languages.