

# Computer Programming in C

Programme :

A programme is a set of definite instruction written in a specified language in a particular sequence to solve a given problem. The machine language is the only language that a computer can understand which is in binary language i.e. in zero and one called Bits.

The development of high level languages brought a revolution in the field of computer. The instruction in high level languages resemble ordinary statement in english and easy to understand. Its high level language requires a translator to translate the computer programmes into machine language. The translators are called compilers or language processors.

Some high level languages are  
# FORTAN, BASIC, PASCAL, JAVA, C, C++, etc.  
↓       ↓  
formula translation

## Introduction to C :

C is a general purpose structured programming language. Its instructions consist of terms like if, else, or, do, while, etc. C also contains certain additional features that allow it to be used at a lower level. This flexibility allows C to be used for system programming (programming for operating system) as well as application programming (programme for maths and other problems).

C compilers are commonly available for computers of all sizes (specification) and are compact. They generate object programmes that are small and highly efficient as compared to other high level language.

## History of C :

C was originally developed in 1970s by Dennis Ritchie at Bell Laboratories. By the

mid 1980s, the popularity of C had become widespread. Numerous C-compilers and interpreters had been written for computer of all sizes and many commercial application programmes had been developed.

### Importance of C:

C language is more popular compare to other languages and it is due to its many desirable qualities. It has a rich set of built-in functions and operators that can be used to write any complex programme. The C-compilers combine the capabilities of an assembly language with the features of a high level language and therefore, it is well suited for writing both system software and business packages. Programmes written in C are efficient and fast. C is highly portable that means a programme written for one computer can be run on another with a little or no modification. Another features of C is

its ability to extend itself. We can, continuously add our own functions and already written programme.

Algorithm is a set of instructions required

A series of procedural steps required to solve a given problem is called an algorithm. To obtain a meaningful result for a given problem using computers, there are five distinct phases.

1. Choice of Method
2. Designing the Algorithm
3. Flow charting
4. Programming
5. Computer Execution

An algorithm has five important features.

1. Finiteness: An algorithm must terminate after a finite no. of steps.