→ INTRODUCTION :

→ Four important aspects of any programming language are :

(i) the way it stores data

(ii) the way it operates upon this data

(iii) how it accomplishes input and output

(iv) how it lets us control the sequence of execution of instructions in a program.

→ WHAT IS C ? :

→ C is a programming language developed at AT & T's Bell Laboratories of USA in 1972 by Dennis Ritchie.

→ C became popular because it is simple and easy to use. An opinion that is often heard today is – "C has been already superseded by languages like C++, C# and Java, so, why bother to learn C today. There are several reasons for this :

(i) C++, C# or Java make use of a principle called object oriented programming (OOP) to organize programs which offer many advantages. While using OOP, we need basic programming skills. So, it makes more sense to first learn C and then move to C++, C# or Java. Though this two step learning process

takes time, but at the end of it, we will definitely find it worth the trouble.

(ii) Major parts of popular operating systems like Windows, Android, etc. are written in C. However, if one is to extend the operating system to work with new devices, one needs to write device driver programs. These programs are written exclusively in C.

(iii) Common consumer devices like microwave ovens, washing machines and digital cameras are getting smarter day by day. This smartness comes from a processor, an operating system and a program embedded in these devices. These programs have to work fast and run in limited amounts of memory. C is the language of choice while building such operating systems and programs.

(iv) Several computer games' main essence is speed. To match this expectation of speed, the game has to react fast to the user inputs. That is why popular gaming frame-works are written in C.

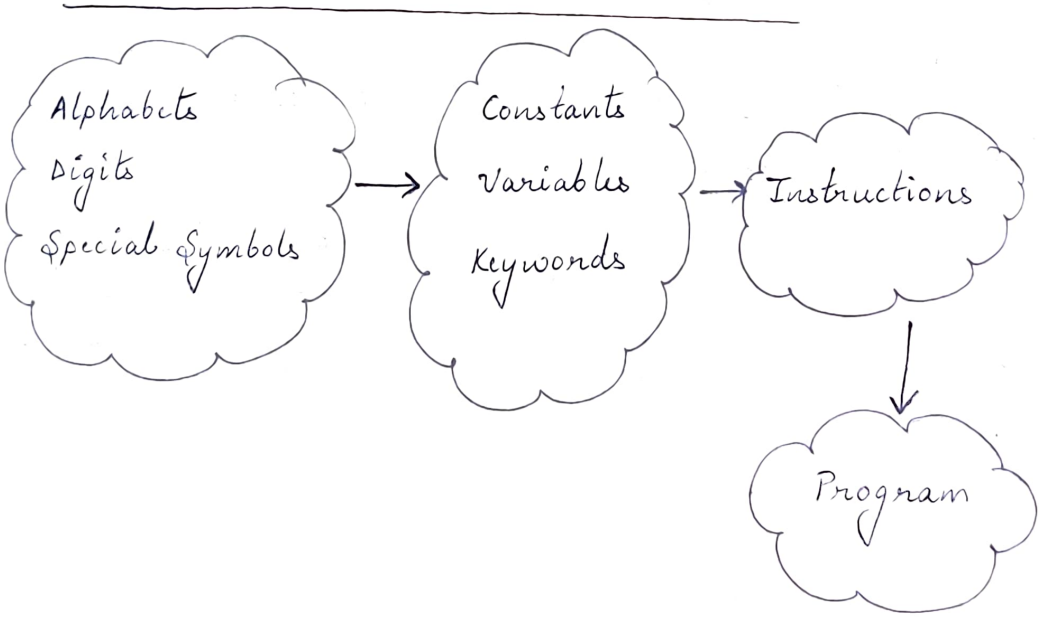
→ WHICH C ARE WE LEARNING ?

→ The official description of the C programming language was published by Brian Kernighan and Dennis Ritchie in 1978. It is commonly referred to as K & R.

→ In 1983, the American National Standards Institute formed a committee, X3J11, to establish a standard specification of C. The ANSI standard was completed in 1989 and ratified as ANSI X3.159-1989 "Programming language C". This version of the language is often referred to as "ANSI-C". It is sometimes also known as C89.

→ In 1995, the ISO published an extension to ANSI C, which is often referred to as ISO C. In March 2000, ANSI adopted ISO C. This standard is commonly referred to as C99.

→ STEPS IN LEARNING C LANGUAGE :



→ ALPHABETS, DIGITS AND SPECIAL SYMBOLS :

→ Alphabets : A, B, C, ..., Z
a, b, c, ..., z

→ Digits : 0, 1, 2, 3, 4, ..., 9

→ Special symbols : ~ , ' , ! , @ , # , % , ^ , & , * , ( )
- , _ , + , = , | , \ , { } , [ ] , : , ; , " ,
' , < , > , . , ? , / , $, ,

→ CONSTANTS, VARIABLES AND KEYWORDS :

→ The alphabets, digits and special symbols when properly combined form constants, variables and keywords.

→ A "constant" is an entity that doesn't change, whereas a "variable" is an entity that may change.

→ A "keyword" is a word that carries special meaning.

→ Constants are also called as "literals", and variables are also called as "identifiers".