UNIT - II.

C PROGRAMMING BASICS.

History of C.

* Structured, high-level, machine-independent language.
* Root of modern languages is ALGOL (1960, First computer language to use block structure). ↓ used in Europe
  (structured pgming)
* 1967 - Martin Richards developed a lang. BCPL (Basic Combined Programming lang) primarily for writing SS.
* 1970 - Ken Thompson created a language with features of BCPL called B.
* B - used to create early version of UNIX OS @ Bell lab
* B & BCPL - "Typeless" system programming languages.
* Dennis Ritchie (ALGOL, BCPL, B) 1972 ← C language
  @ Bell Lab
* C uses many concepts from these languages & added up datatypes, other powerful concepts.
* Unix is associated with C. C is used in academic environments, it runs under variety of operating sty & H/w platforms.
* 1979, C is evolved into "traditional C".
* 'The C programming language' book - Dennis Ritchie & Brain Kernighan (1978).
  K&R C
* 1983 - American National Standards Institute (ANSI) appointed a technical committee to define a standard for C.
  It was approved in Dec 1989. C89
  approved by ISO in 1990.

* C ++ added new features to C - to make it a Versatile and object-oriented language.

* During this period Sun Microsystems of USA created a new lang Java

* All languages are Dynamic in Nature.

1960	ALGIOL	International Group
↓		
1967	BCPL	Martin Richards
↓		
1970	B	Ken Thompson
↓		
1972	Traditional C	Dennis Ritchie
↓		
1978	K & R C	Kernighan & Ritchie
↓		
1989	ANSI C	ANSI Committee
↓		
1990	ANSI/ISO C	ISO Committee
↓		
1999	C99	Standardization committee

Importance of C

* Robust
* Built-in functions & operators - complex pgm.
* C Compiler - capability of Assembly language + Features of high-level lang

↓

Suited for writing both ss & business package.

- pgms in C - Efficient & fast [Datatypes + operators]

* Faster than BASIC.

Ex: Increment a Variable 0 - 15000 take 1 sec in C
0 - 15000 take more than 50 sec in BASIC (Interpreter)

* 32 keywords in C, Built-in functions
* Highly portable - C pgm written in one computer can run on another with little/no Modification
* Structured programming. - function modules.
* Extends itself. C is a collection of function supported by C library

Example programs.

```
#include <stdio.h>
#include <conio.h>
main()
{
 /* printing */
 printf("C programming");
}
```

C pgm is divided into modules/functions.

functions are written by User, stored in C library.

Library fns are grouped category-wise and stored in different files known as header files.

#include <filename>

preprocessor directive.