

CONCEPTS OF COMPUTER AND C-PROGRAMMING



1

**BY: SHRESHTHA MISRA
[CSE DEPARTMENT]**

OUTLINE OF THE COURSE

- ▣ **UNIT 1: INTRODUCTION TO COMPUTERS**
- ▣ **UNIT 2: BASIC OPERATING SYSTEM CONCEPTS**
- ▣ **UNIT 3: PROGRAMMING IN C**
- ▣ **UNIT 4: OPERATORS, CONTROL STATEMENTS AND LOOPS**
- ▣ **UNIT 5: STRUCTURE, UNIONS, POINTERS AND FILE HANDLING**

INTRODUCTION TO C LANGUAGE

- ❑ C is a general-purpose high level language that was originally developed by **Dennis Ritchie** for the Unix operating system at AT&T Bell Laboratories in early of 1970's.
- ❑ It was developed to overcome the problems of previous languages such as B, BCPL, etc.
- ❑ Initially, C language was developed to be used in **UNIX operating system**. It inherits many features of previous languages such as B and BCPL.
- ❑ The Unix operating system and virtually all Unix applications are written in the C language.

INTRODUCTION TO C LANGUAGE

- ❑ C has now become a widely used professional language for various reasons:
- ❑ Easy to learn
- ❑ Structured language
- ❑ It produces efficient programs.
- ❑ It can handle low-level activities.
- ❑ It can be compiled on a variety of computers.

HISTORY OF C

Language	Year	Developed By
Algol	1960	International Group
BCPL	1967	Martin Richard
B	1970	Ken Thompson
Traditional C	1972	Dennis Ritchie

FACTS ABOUT C

- ❑ C was invented to write an operating system called UNIX.
- ❑ C is a successor of B language which was introduced around 1970
- ❑ The language was formalized in 1988 by the American National Standard Institute (ANSI).
- ❑ By 1973 UNIX OS almost totally written in C.
- ❑ Today C is the most widely used System Programming Language.
- ❑ Most of the state of the art software have been implemented using C

WHY TO USE C?

- ❑ C was initially used for system development work, in particular the programs that make-up the operating system. C was adopted as a system development language because it produces code that runs nearly as fast as code written in assembly language. Some examples of the use of C might be:
 - ❑ Operating Systems
 - ❑ Language Compilers
 - ❑ Assemblers
 - ❑ Text Editors
 - ❑ Print Spoolers
 - ❑ Network Drivers
 - ❑ Modern Programs
 - ❑ Data Bases
 - ❑ Language Interpreters
 - ❑ Utilities

C PROGRAM FILE

- All the C programs are written into text files with extension ".c" for example *hello.c*. You can use "vi" editor to write your C program into a file.

C COMPILERS

- When you write any program in C language then to run that program you need to compile that program using a C Compiler which converts your program into a language understandable by a computer. This is called machine language (i.e. binary format). So before proceeding, make sure you have C Compiler available at your computer. It comes along with all flavors of Unix and Linux.
- If you are working over Unix or Linux then you can type `gcc -v` or `cc -v` and check the result. You can ask your system administrator or you can take help from anyone to identify an available C Compiler at your computer.

THANK YOU