### Shoukat Malik B.S Software Engineering SSUET Karachi



INTRODUCTION TO C PROGRAMMING



- Why C language
  - History to C programming Language
  - Feature of C Language



# History of C Programming





International Groups

Cambridge University

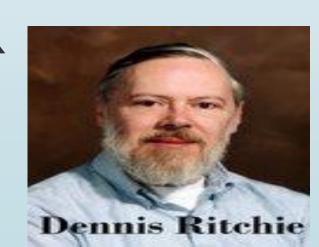
Type less Language



1972 C Dennis Ritchie

Type base language

It was developed to overcome the problems of previous languages such as B, BCPL etc.



# C Language Standard

1989 ANSI American National Standard Institute or C - 89

1990 ISO International Organization for Standardization or C - 90.

1995 ISO C-95.

1999 ISO C-99

December 2011 C-11



# Features of C Language

## Low Level Features:

- □ C Programming provides <u>low level features</u> that are generally provided by the Lower level languages. C is Closely Related to Lower level Language such as "Assembly Language".
- It is easier to write assembly language codes in C programming.



## Portability:

- ☐ C Programs are portable i.e. they can be run on any Compiler with Little or no Modification
- □ Compiler and Preprocessor make it Possible for C Program to run it on Different PC

## **Powerful**

- Provides Wide verity of 'Data Types'
- ☐ Provides Wide verity of 'Functions'
- Provides useful Control & Loop Control Statements



# High Level Features:

- ☐ It is more User friendly as compare to Previous languages. Previous languages such as BCPL, Pascal and other programming languages never provide such great features to manage data.
- ☐ Previous languages have there **pros and cons** but C Programming collected all useful features of previous languages thus C become **more effective language**

•A C program is basically a collection of functions that are supported by C library. We can also create our own function and add it to C library.

 C language is the most widely used language in operating systems and embedded system development today



## Bit Manipulation

☐ It provides wide verity of bit manipulation Operators. We have bitwise operators to manage Data at bit level.

## Different parts of C program.

- Pre-processor
- Header file
- Function
- Variables
- expression
- Comment
- All these are essential parts of a C language program.

### **Pre-processor**

The main work of pre-processor is to initialize the environment of program, i.e. to link the program with the header file. .e.g. **#include** 

#### Header file

Header file is a collection of built-in functions

To use any of the standard functions, the appropriate header file must be included

Example: <stdio.h ><conio.h >, <math.h >, <string.h >

## main() function

main() function is a function that must be used in every C program. A function is a sequence of statement required to perform a specific task. main() function starts the execution of C program.

#### **Variables**

Variable is the name of memory location

