C Language

Chapter # 8

Getting started with c

Lecture: 01

Today's Lecture

▶ What is Program?

▶ Who is programmer?

▶ What is Programming Language?

▶ Types of Programming Languages.

▶ Characteristics of High level languages.

▶ Language translator and its types

What is Program

▶ A computer is a device that follows the instructions given to it.

▶ A well defined set of instruction given to the computer is called a computer program.

▶ A computer program is written in a programming language.

Who is Programmer

A person who develops program is called Programmer or Developer.

Programming Language

▶A set of word and symbols used to write program is called programming language.

▶A programming language means of communication between a user and computer.

Types of Programming Language

There are two types of computer language

▶ Low Level Language

▶ High Level Language

Low Level Language

- Low Level Language are near to computer hardware and far from human language.

Types of Low Level Language

There are two types of Low Level Language
- Machine Language
- Assembly Language

1.Machine Language

- A types of language in which instructions are written in binary form is called Machine Language
- It is the only language that is directly understood by the computer.
- Every computer has its own machine language.
- Machine Language is difficult to understand.

2. Assembly Language

- ▶ It is one step higher that machine language.
- ▶ In Assembly Language , machine language are replaced with English words knowns as mnemonics.
- ▶ It is pronounces as Ne-Monics.

High Level Language

► A type of language that is close to human languages is called High Level Language

► The instructions in these languages are similar to English such as input and print etc.

► These language are easy to understand.

Some Example of High Level Language are as follows.

► C/C++,   Java, Pascal,   Fortran,   Cobol,   Basic

What is Source Code

- A programming in a high level language and assembly language is called Source Code.

- Source Code is easy to under stand

- Source Code is easy to modify

- Source Code contains fewer statements

What is Object Code.

▶ A programming in a machine language is called Object Code.

▶ Object Code is difficult to under stand

▶ Object Code is difficult to modify

▶ Object Code contains more statements

Characteristics of High level language

1. Easy to learn
2. Easy error detection
3. Standardized syntax
4. Deep hardware knowledge not required
5. Machine independence
6. More programmers
7. Shorter program

What is Language Translators

- ▶ Computer understand only machine language.
- ▶ A program written in high level or assembly language cannot be run on a computer.
- ▶ It must be converted into machine language before execution.
- ▶ Language Translators or processor is a type of system software that convert these programs into machine language.

Types of Translators

There are Three types of Translators

▶ Compiler

▶ Interpreter

▶ Assembler

1.What is Compiler

▶ A Compiler is a program that convert the instruction high level language into machine language as a whole.

▶ A program written in high level language is called source code.

▶ The Compiler converts the source code into machine code.

▶ The machine code is known as object code

▶ The object code can be executed many times.

▶ Complier checks syntax errors in program

▶ A source program containing an error cannot be compiled.

2. What is Interpreter

- A Compiler is a program that convert the instruction high level language into machine language statement by statement.

- If there is an error in the statement , the interpreter stops working and display the error message.

3. What is Assembler

An assembler is a translating program that translate the instruction of assembly language into machine language.

The End

Read this topic from your books and ask question if any confusion.

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