

BS Computer Science

Programming Fundamentals

Semester Fall 2017

Notes

Week 1

Q.1 What is Program.

Ans: A Set of Instruction which are given to computer in order to perform certain task Is called Program.

Q.2 What is Programming Language

Ans: Programming is a Technique in which user can communicate with Computer. There are Three type of Programming Language which are under.

1) Machine Language: Machine Language or Machine Code Consist of Binary Digit Which are (1,0). It is the only Language that Computer Directly Understand.

2) Assembly Language: Assembly Language is low level programming language for microprocessor and other programming devices. In Assembly Language instruction is easy-to-remember form called mnemonic. e.g add, sub, div.. however a computer can't execute assembly language instruction directly these instruction first have to be translated into machine language. A program called Assembler translates the assembly language instruction into machine language.

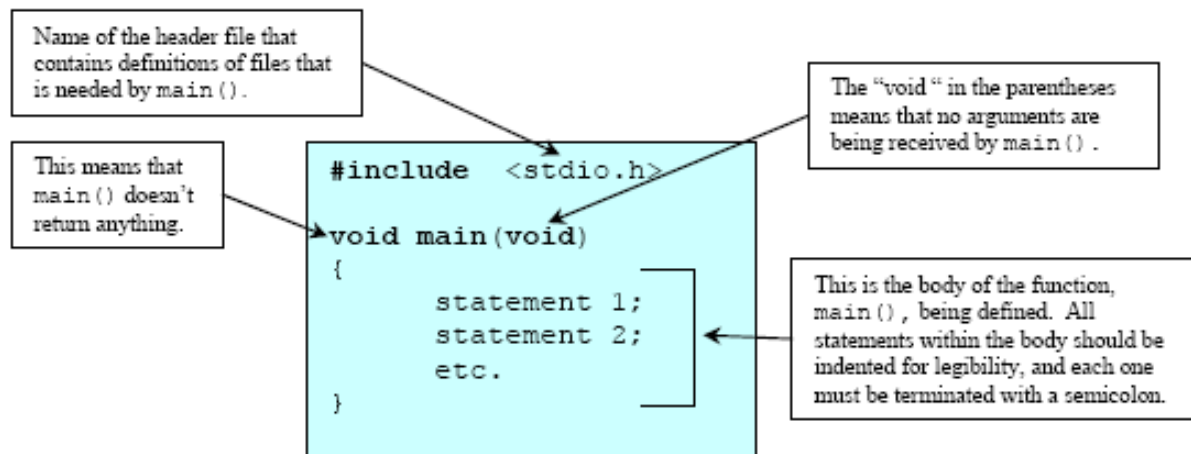
3) High Level Language: In High Level Programming Language Instruction are closer to natural languages the computer cannot directly execute instructions written in a high-level language. To run on a computer, these instructions first need to be translated into machine language. A program called a compiler translates instructions written in high-level languages into machine code.

Miscellaneous:

- **Hexadecimal** 1-16 (16)
- **Decimal** 0-9 (10)
- **Octal** 0-7 (8)

Week 2

Structure of C++ Program:



Program 1: Basic Structure of the C/C++ program

File Extension: In Computer every file has a extension.

e.g : **class.cpp**

class is a filename and **(.cpp)** is a file extension.

Preprocessor Directive: These are instructions for Compiler.

Include: For preprocessor directive to include certain file to our source files.

Source File: are that file a program of any language are stored.e.g **class.cpp**.

Object File: are that file which are translated into machine code from High Level Language.

Arguments: Those information which are given to function.

Void: are used for function that does not return any value.

Rules of C++ Program:

- Every Program Should Have **main()**.
- Every statement should be end with semicolon **(;)**.
- This Language is **Case Sensitive**.
- All the Letter should be in **lowercase**.