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Lecture-1

Flowcharts/Psendo Code/Basics

Algorithm is a series of steps to solve a given problem.

e.g. How to approach a problem

Thought process

Steps to solve a problem

1. Understand a Problem Carefully
2. Check given input and outputs
3. Create logic using flowchart or Psendo code
4. Write Source Code using your preferred language.

Ques. Is C++ is a Middle Level Language ?

Ans. Yes, as it comprises a combination of both High-level and low-level language features.

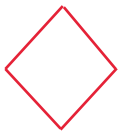
A flowchart us a type of diagram that represents an algorithm, workflow of program etc.

Flowchart Components

Start/End

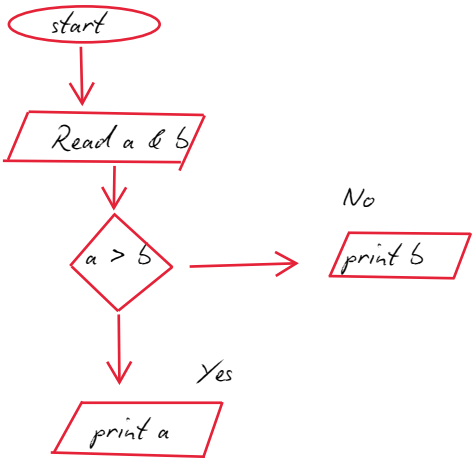
Input/output

Process Block/Calculation/Initialization/declaration



Decision Making Block

"this arrow shows the flow of execution"

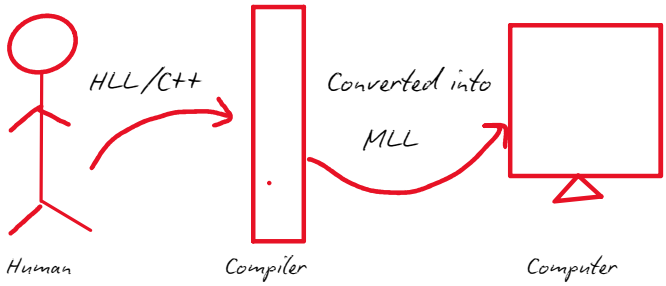


Ques. Why do we need Programming Language?

→ To instruct the computer to do real world task and computation.

→ It has fixed set of rules according to which program could be written in it. These program are then converted into machine

understandable (0 or 1) and this task is carried out a special software called Compiler. (Translator)



Compiler vs Interpreter

Basic	Compiler	Interpreter
Analysis	Program compiled in One Go.	Program interpret line by line.
Machine Code	Store Machine Code (.exe) in the disk	Not stored
Execution	Execution of program happen only after entire program compiled.	Takes place after every line
Run time	Faster	Slower
Error and error execution	All the error are shown at the time of compilation & the program cannot be run until it resolved.	Display error from line to line. The program is until the error is found.
CPU Utilization	CPU utilization is higher.	Use less CPU than the compiler.

A "Compiler" translate code written in HLL into LLL (0/1). It convert the code ahead of time before the program runs.

A "interpreter" translate the code line by line when the program is running.