

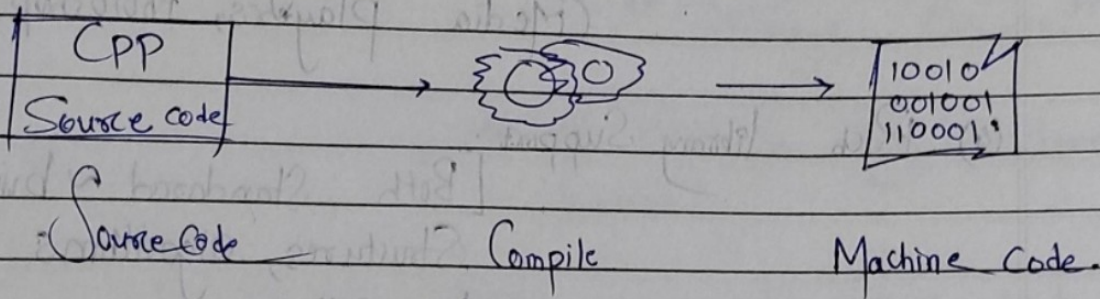
Day 1.

- ✓ ① Introduction to C++ Prog. Lang.
- ① Setting up C++ Development Environment.
- ① C Vs C++
- ① C++ Vs Java
- ① First C++ program: Hello world.

Day 1.

★ Intro:

- ↳ enhancement to C language.
- ↳ Imperative & Compiled language.



C++ ⇒ Middle-level language. Rendering it the advantage of programming low-level (drivers, kernels) & even higher level application (Games, GUI, desktop etc).

Basic Syntax and Code Structure of both C & C++ are same.

Features

Key points ⇒ (1) Simple:

Program can be broken into logical units & parts,
Has Rich library support & Variety of Data types.

(2) Machine Independent
But

Platform Dependent. ∴

A C++ executable isn't platform Independent (Compiled prog. on Linux won't run on Windows) However they are Machine Independent.

(3) Mid level language:

As we can do both system programming (drivers, kernel Networking etc.) & build large-scale user applications (Media players, Photoshop, Game Engines etc.)

(4) Rich library Support:

[Both Standard ~ built in data Structures, algorithms etc.]

As well as, 3rd party libraries (Eg: Boost library) for rapid & fast development.

(5) Speed of execution:

↳ Excel in execution speed.

↳ Since, it's compiled language, it's highly procedural.

↳

The Newer languages have extra built in default features such as

○ Garbage collection

○ Dynamic typing etc. which

Slower the execution of the program overall.

Since, there is No addition processing overhead like this in C++ it's blazing fast.

(4) Pointer & Direct Memory Access:

↳ C++ adds pointer support which aid users to directly manipulate the "Storage Devices."

↳ It helps in doing low-level programming.

(Where one might need to have explicit control on the storage of variables).

(5) Object-Oriented:

One of the strongest points of the C++ language which sets it apart from C.

↳ OOP Support - Helps C++ to make maintainable & extensible program i.e. large scale application can be built.

↳ Procedural code become difficult to maintain, contributing to its speed.

(6) Compile Language:

Compiled contributing to its speed.

* Applications of C++

(1) Operating System Programming.

(Eg: Linux based OS (Ubuntu etc))

(2) Graphics & Game Engine (Photoshop, blender, Unreal engine)

(3) Database Engines (MySQL, Mongo DB, Redis etc.)

(4) Cloud / Distributed systems.

* Some Interesting facts of C++

(1) C++ signifies evolutionary nature of the language from C \rightarrow "++"

It's Increment Operator

(2) It's Most predominant language for the development of all kind of Technical & Commercial SW.

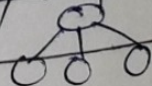
(3) Introduces OOP, present in C++ Not in C.

Like other things, C++ Support four primary feature of OOP \Rightarrow

(a) Encapsulation

(Logic/Data)

(b) polymorphism



(c) Abstraction.

(d) Inheritance.

(4) C++ got OOP feature from Simul67 programming language.

(5) A Function is Minimum requirement for a C++ program to run. (at least main function)

Credit : @Arun Jadhav (S/W Developer)
@Amal Bhavsar (S/W Developer)