

# C++ Programming

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# Basics Of Programming Languages

Programming is the process of creating a set of instructions which tells a computer how to perform a task.

## Types Of Languages

- Low Level Languages.
- High Level Languages.

### Low Level Languages

**Assembly Level Language** Low-level programming that is intended to communicate directly with hardware.

### High Level Languages

Easy to understand and less complex than assembly level language/machine code.

### Types Of High Level Languages.

- Procedural
- Functional
- Object-Oriented

#### Procedural:

- It is written in set of procedures which executes in a structure/serial order.
- Procedures are also known as subroutine/function.
- e.g. C, Basic, Pascal etc.

#### Functional:

- We functions to write the code.
- Functions are chunks/block of code which can use over and over again.
- They can also take parameters.
- e.g. Python, JavaScript etc.

#### Object-Oriented:

- We use object and classes.
- Classed are user defined prototype/blueprints which can be used to create objects.
- Object are real life entity.
- e.g. C++, Java, C# etc.

**Class:** We can define some properties, attributes, methods etc.

**Object:** Instance of a class which allows to use variables and methods from class.

## **CPP Programming Language.**

- It is Object-Oriented Programming Language.
- But it also has support for procedural programming.
- Initially it was intended to developed as a superset of C but later on it became a new programming language.
- Developed by **Bjarne Stroustrup** in **1979**.

## **Data Structure And Algorithm**

It is foundational blocks of a big building named as program.

### **Data Structure**

A data structure is a named location that can be used to store and organize data.

### **Algorithm**

An algorithm is a collection of steps to solve a particular problem.