



Summary CPP

Sessions No 12(09-11-2022)

- **Object Oriented Programming-** Object-oriented programming (OOP) is a programming paradigm based on the concept of objects, which are data structures that contain data, in the form of fields (or attributes). With Classes, we can create our own data structures
- C++ is an object-oriented programming language. Everything in C++ is associated with classes and objects.

- **Structure of object-oriented programming**

The structure, or building blocks, of object-oriented programming, include the following:

Classes are user-defined data types that act as the *blueprint* for individual objects, attributes, and methods.

Object- An Object is an instance of a Class. When a class is defined, no memory is allocated but when it is instantiated (i.e. an object is created) memory is allocated.

Methods are functions that are defined inside a class that describe the behaviors of an object.

Attributes are defined in the class template and represent the state of an object. Objects will have data stored in the *attributes* field.

- Objects are unique entities and carry a separate space in RAM. So we can create multiple objects which have the same attributes, and they will not be creating any issues. But if we are not using classes, and trying to create two variables with the same name in an activation record, then it would not be possible.
- **Instance** – An instance is an individual object of a certain class.
- For creating an instance, we use the “**new**” keyword.
- Data structure helps in organizing the data, With the help of OOPS concepts, we can create our own custom data structures.

