

## [C++ Interview Questions \(2021\) - InterviewBit](#)

C	C++
Procedural Oriented Programming Language	Object Oriented Programming Language
Doesn't support data hiding	Data is hidden by encapsulation to ensure that data structures and operators are used as intended
Function, operator Overloading is not allowed	Function, operator Overloading is allowed
Functions can't be defined inside structures	Functions can be defined inside structures
malloc() and calloc() functions are used for memory allocation and free() function is used for memory de-allocation in heap memory	new operator is used for memory allocation and delete operator is used for memory deallocation

Structure	Class
All the members of a structure are public by default	All the members of a class are private
When a structure is derived from a class/structure its base class members are public	When a structure is derived from a class/structure its base class members are private

Operator Overloading is a very important aspect of user-defined data types . They help by modifying the default meanings of the operator and make us use them for different operations

Polymorphism means having many forms

1. Compile-time Polymorphism
2. Run-time Polymorphism

Compile-time Polymorphism involves method overloading and operator overloading

Run-time Polymorphism involves function overriding and virtual functions

Constructors are present in class with the same class name and are similar to methods without any return type. They are invoked by default when an object of the class is created

Virtual functions are member functions of the base class which are re-defined in the derived class they are identified with the prefix keyword 'virtual' These are invoked at the run-time and hence this phenomenon is known as run-time polymorphism.

Compile-Time Polymorphism	Run-Time Polymorphism
We will have an idea of which function would be called at the compile time and the call is resolved by the compiler	We will have an idea of which function would be called at the run time and the call is not resolved by the compiler
Execution will be fast	Execution will be slow
Involves function overloading, method overloading	Involves pointers ,function overriding and virtual functions

Friend class is used to access the private,public,protected (all) members of another class and a friend function is used to access the all members of the class though it is defined outside the class but it must be declared inside the class with a prefix keyword 'Friend'

- Among Linear Search and Binary Search; Binary Search is faster than Linear Search as it takes  $O(\log n)$  as time complexity whereas linear search takes  $O(n)$ .