

Classes and Objects



Today's Agenda

- Class
- Object
- Creating class function inside the class.
- Creating Class function Outside the class
- Practice Questions
- Static Data members
- Static member functions
- Friend function and class
- MCQ Questions

Let's Get Started-

Class and Object

A class in C++ is the building block, that leads to Object-Oriented programming. It is a user-defined data type, which holds its own data members and member functions, which can be accessed and used by creating an instance of that class. A C++ class is like a blueprint for an 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

Person class example

Multiple person objects example

Member functions example

Member functions (Outside the class) example

Friend Class

As we know that a class cannot access the private members of other class. Similarly a class that doesn't inherit another class cannot access its protected members.

A friend class is a class that can access the private and protected members of a class in which it is declared as friend. This is needed when we want to allow a particular class to access the private and protected members of a class.

Friend class example

Friend Function

Similar to friend class, this function can access the private and protected members of another class. A global function can also be declared as friend as shown in the example below:

```
#include <iostream>
using namespace std;
class XYZ {
private:
    int num=100;
    char ch='Z';
public:
    friend void disp(XYZ obj);
};
```

Friend function example

Practice Questions

1. Write a C++ Program to find Factorial of a number using class. Here's simple C++ Program to find Factorial of a number using class in C++ Programming Language.
2. Write a C++ Program to find Sum of odd numbers between 1 and 100 using class

Any Questions??

Thank You!

See you guys in next class.