

## **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.**