

Class: 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.

```
// Create a Car class with some attributes
class Car {
public:
    string brand;
    string model;
    int year;
};
```

```
// Create a Car class with some attributes
class Car {
    public:
        string brand;
        string model;
        string description;
        string owner;
        int year;
};

int main() {
    // Create an object of Car
    Car carObj1;
    carObj1.brand = "BMW";
    carObj1.model = "X5";
    carObj1.year = 1999;

    // Create another object of Car
    Car carObj2;
    carObj2.brand = "Ford";
    carObj2.model = "Mustang";
    carObj2.year = 1969;

    // Create another object of Car
    Car carObj3;
    carObj3.brand = "Honda";
    carObj3.model = "Red";
    carObj3.year = 1957;

    // Create another object of Car
    Car carObj4;
    carObj4.brand = "Hyundai";
    carObj4.model = "Blue";
    carObj4.year = 1943;

    // Print attribute values
    cout << carObj1.brand << " " << carObj1.model << " " << carObj1.year <<
"\n";
    cout << carObj2.brand << " " << carObj2.model << " " << carObj2.year <<
"\n";
```

```
    return 0;  
}
```



```
#include <iostream>  
  
using namespace std;  
  
class Box {  
public:  
    double length;           // Length of a box  
    double breadth;          // Breadth of a box  
    double height;           // Height of a box  
  
    // Member functions declaration  
    double getVolume(void);  
    void setLength( double len );  
    void setBreadth( double bre );  
    void setHeight( double hei );  
};  
  
// Member functions definitions  
double Box::getVolume(void) {  
    return length * breadth * height;  
}
```

```
void Box::setLength( double len ) {
    length = len;
}
void Box::setBreadth( double bre ) {
    breadth = bre;
}
void Box::setHeight( double hei ) {
    height = hei;
}

// Main function for the program
int main() {
    Box Box1;                      // Declare Box1 of type Box
    Box Box2;                      // Declare Box2 of type Box
    double volume = 0.0;           // Store the volume of a box here

    // box 1 specification
    Box1.setLength(6.0);
    Box1.setBreadth(7.0);
    Box1.setHeight(5.0);

    // box 2 specification
    Box2.setLength(12.0);
    Box2.setBreadth(13.0);
    Box2.setHeight(10.0);

    // volume of box 1
    volume = Box1.getVolume();
    cout << "Volume of Box1 : " << volume << endl;

    // volume of box 2
    volume = Box2.getVolume();
    cout << "Volume of Box2 : " << volume << endl;
    return 0;
}
```