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Classes and Objects

C++ Class Definitions

A class definition starts with the keyword **class** followed by the class name; and the class body, enclosed by a pair of curly braces. Then a semicolon or a list of declarations.

```
1  class Box
2  {
3      public:
4          double length;  // Length of a box
5          double breadth; // Breadth of a box
6          double height;  // Height of a box
7  }
```

The keyword **public** determines the access attributes of the members of the class that follow it. You can also specify it as either **private** or **protected**.

Define C++ Objects

We declare objects of a class with exatly the same sort of declaration that we declare variables of basi types.

```
1 Box box1;
2 Box box2;
```

Accessing Data Members

Public data members of objects of a class can be accessed using the direct member access operator (.).

```cpp
#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
};

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.height  = 5.0;
   box1.length  = 6.0;
   box1.breadth = 7.0;

   // box 2 specification
   box2.height  = 10.0;
   box2.length  = 12.0;
   box2.breadth = 13.0;
   // volume of box 1
   volume = box1.height * box1.length * box1.breadth;
   cout << "Volume of Box1 : " << volume << endl;

   // volume of box 2
   volume = box2.height * box2.length * box2.breadth;
   cout << "Volume of Box2 : " << volume << endl;

   return 0;
}
```