# Input/Output Operators Overloading in C++

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C++ is able to input and output the built-in data types using the stream extraction operator >> and the stream insertion operator <<. The stream insertion and stream extraction operators also can be overloaded to perform input and output for user-defined types like an object.

Here, it is important to make operator overloading function a friend of the class because it would be called without creating an object.

Following example explains how extraction operator >> and insertion operator <<.

```
#include <iostream>
using namespace std;

class Distance {
   private:
      int feet;             // 0 to infinite
      int inches;           // 0 to 12

   public:
      // required constructors
      Distance() {
         feet = 0;
         inches = 0;
      }
      Distance(int f, int i) {
         feet = f;
         inches = i;
      }
      friend ostream &operator<<( ostream &output, const Distance &D ) {
         output << "F : " << D.feet << " I : " << D.inches;
         return output;
      }

      friend istream &operator>>( istream  &input, Distance &D ) {
         input >> D.feet >> D.inches;
         return input;
      }
};

int main() {
   Distance D1(11, 10), D2(5, 11), D3;

   cout << "Enter the value of object : " << endl;
   cin >> D3;
   cout << "First Distance : " << D1 << endl;
   cout << "Second Distance :" << D2 << endl;
   cout << "Third Distance :" << D3 << endl;

   return 0;
}
```

When the above code is compiled and executed, it produces the following result −

```
$./a.out
Enter the value of object :
70
10
First Distance : F : 11 I : 10
Second Distance :F : 5 I : 11
Third Distance :F : 70 I : 10
```

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