

## OOP – Assignment 6

### Operator Overloading

You are given a cpp file “YourRollNumber.cpp” which contains partial definition of class “MyString” and a driver program Main. Your task is to complete the definition of MyString such that it gives following output:

```
C:\Windows\system32\cmd.exe
String 1 is Empty.
Str 1 =

Enter String 1: Happy
Enter String 2: Birthday

User Entered:
String 1 = Happy
String 2 = Birthday

Before str1 = str1; str1 = Happy
After str1 = str1, str1 = Happy

Before str4 = str3 = str1+str2
str1 = Happy
str2 = Birthday
str3 =
str4 =

After str4 = str3 = str1+str2
str1 = Happy
str2 = Birthday
str3 = HappyBirthday
str4 = HappyBirthday

Enter String 3: abcd

Enter String 4: abcD

str3 = abcd
str4 = abcD
String 3 is NOT Less than String 4.

Str5: HappyBirthday
Str5[7]: r

Str5: HappyBi$thday

str5(5, 10): Bi$thday
Press any key to continue . . .
```

#### Important:

You are not allowed to change main program.

#### YourRollNo.cpp

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

```

class MyString
{
    //You can add your code here
private:
    char* str;
    int lenght; //not including the null char here
    //Add GetStringFromBuffer as static private member (helper)
    //Add Concatenate, CompareString as static private member (helper)
    //You can add your class members here
public:

    //-----DO_NOT_CHANGE REGION starts below-----
    //Do not change the prototypes given below
    MyString operator+(const MyString);
    MyString& operator=(const MyString&);
    bool operator<(MyString); //Comparison on the basis of ascii values
    //-----End of DO_NOT_CHANGE REGION-----

    //Add your class members here
};

//-----Add your code here-----

//-----DO_NOT_CHANGE REGION starts below-----
void main()
{
    MyString str1, str2, str3, str4; //Default constructor will make a string of
    lenght 0 but having null character (only) i.e. empty string

    if(!str1)
    {
        cout<<"String 1 is Empty.\n";
        cout<<"Str 1 = "<<str1<<endl<<endl<<endl;
    }

    cout << "Enter String 1:\t";
    cin >> str1;

    cout << "Enter String 2:\t";
    cin >> str2;

    cout << "\n\nUser Entered:\n";
    cout << "String 1 = " << str1 << endl;
    cout << "String 2 = " << str2 << endl<<endl<<endl;

    //What is following code testing?
    cout<<"Before str1 = str1; str1 = "<<str1<<endl;
    str1 = str1;
    cout<<"After str1 = str1, str1 = "<<str1<<endl<<endl<<endl;

    cout<<"Before str4 = str3 = str1+str2\n";
    cout<<"str1 = "<<str1<<endl;
    cout<<"str2 = "<<str2<<endl;
    cout<<"str3 = "<<str3<<endl;
}

```

```

cout<<"str4 = "<<str4<<endl;
str4 = str3 = str1+str2;

cout<<"\n\n\nAfter str4 = str3 = str1+str2\n";
cout<<"str1 = "<<str1<<endl;
cout<<"str2 = "<<str2<<endl;
cout<<"str3 = "<<str3<<endl;
cout<<"str4 = "<<str4<<endl;

cout<<"\n\n\nEnter String 3:\t";
cin >> str3;

cout<<"\n\n\nEnter String 4:\t";
cin >> str4;

cout<<"\n\n\nstr3 = "<<str3<<endl;
cout<<"str4 = "<<str4<<endl;

if(str3 < str4) //Zohaib < Zoraiz <Zuhaib
    cout<<"String 3 is Less than String 4.\n";
else
    cout<<"String 3 is NOT Less than String 4.\n";

MyString str5 = str1 + str2;
cout << "\n\n\nStr5:\t" << str5 << endl;
cout << "Str5[7]:\t" << str5[7] << endl; //Function Call: str5.operator[](7).
str5[7] = '$';

cout << "\n\nStr5:\t" << str5 << endl;

cout << "\n\n\nstr5(5, 10):\t" << str5(5, 10) << endl;// Substring of lenght 10
starting from index 5 . Function Call str5.operator()(5,10)

}
//-----End of DO_NOT_CHANGE REGION-----

```