Practical no:- 1

Name : Aryan Ashok Mane
Class :SE
Div: B2
Roll no : S212043

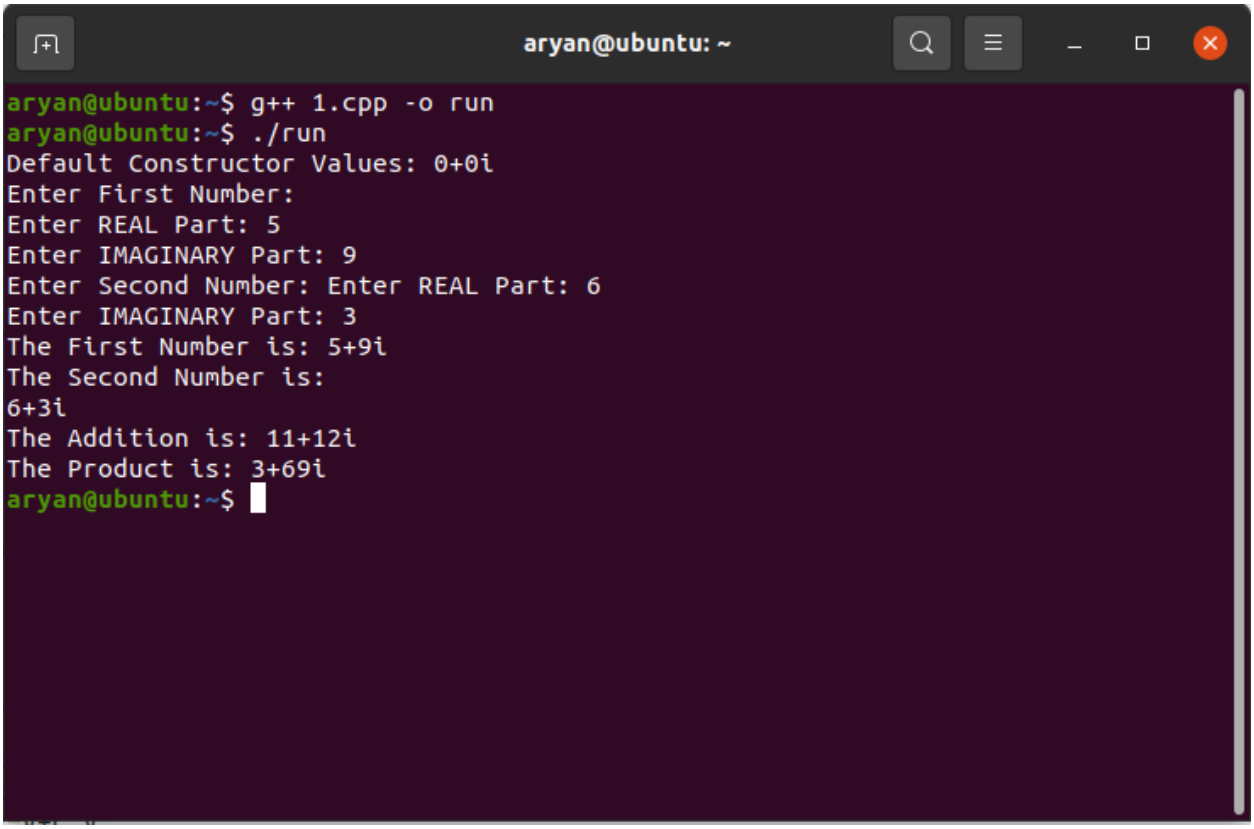
Problem Statement :
GroupA_PR01_ComplexNo
Implement a class Complex which represents the Complex Number data type. Implement the following
1. Constructor (including a default constructor which creates the complex number 0+0i).
2. Overloaded operator+ to add two complex numbers.
3. Overloaded operator* to multiply two complex numbers.4. Overloaded << and >> to print and read Complex Numbers.
Actual Code :

```
#include<iostream>
using namespace std;
class complex
{
float x,y;
public:
complex()
{
x=0;
y=0;
}
complex operator + (complex);
complex operator * (complex);
friend istream &operator >> (istream &(input),complex &t)
{
cout<<"Enter REAL Part: ";
input>>t.x;
cout<<"Enter IMAGINARY Part: ";
input>>t.y;
return input;
}
friend ostream &operator << (ostream &(output),complex &t)
{
output<<t.x<<"+"<<t.y<<"i";
return output;
}
```

```
};
complex complex::operator + (complex c)
{
complex temp1;
temp1.x=x+c.x;
temp1.y=y+c.y;
return temp1;
}
complex complex::operator * (complex c)
{

complex temp2;
temp2.x=(x*c.x)-(y*c.y);
temp2.y=(y*c.x)+(x*c.y);
return temp2;
}
//The main part of program.
int main()
{
complex c1,c2,c3,c4;
cout<<"Default Constructor Values: ";
cout<<c1<<endl;
cout<<"Enter First Number: "<<endl;
cin>>c1;
cout<<"Enter Second Number: ";
cin>>c2;
c3=c1+c2;
c4=c1*c2;
cout<<"The First Number is: ";
cout<<c1<<endl;
cout<<"The Second Number is: "<<endl;
cout<<c2<<endl;
cout<<"The Addition is: ";
cout<<c3<<endl;
cout<<"The Product is: ";
cout<<c4<<endl;
return 0;
}
```

Output:


aryan@ubuntu: ~
aryan@ubuntu:~$ g++ 1.cpp -o run
aryan@ubuntu:~$ ./run
Default Constructor Values: 0+0i
Enter First Number:
Enter REAL Part: 5
Enter IMAGINARY Part: 9
Enter Second Number: Enter REAL Part: 6
Enter IMAGINARY Part: 3
The First Number is: 5+9i
The Second Number is:
6+3i
The Addition is: 11+12i
The Product is: 3+69i
aryan@ubuntu:~$