Practical No: 03

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Title:
Write a program to demonstrate compile time polymorphism (Operator Overloading / Function Overloading).

Source Code for Function Overloading :

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

class oddeven
{

    int r,len,bre;
    public:
    void area(int r)
    {
        cout<<"Enter the radius of circle :";
        cin>>r;
        float area= 3.14*r*r;
        cout<<"The area of circle is :"<<area;
    }
    void area(int len , int bre)
    {
        cout<<"Enter the length:"<<endl;
        cin>>len;
        cout<<"Enter the breadth:"<<endl;
        cin>>bre;
        float area=len*bre;
        cout<<"The area of rectangle is :"<<area;
```

```
    }
};

int main()
{
    oddeven p;
    p.area(4,5);
    return 0;
}
```

Output :
Enter the length:
4
Enter the breadth:
5
The area of rectangle is :20

Source Code for Operator Overloading :

```
#include<iostream>
using namespace std;
class complex
{
    float imag,real;

    public:
    complex()
    {
        real=0;
        imag=0;
    }
    void getdata()
    {
        cout<<"Enter the real part :"<<endl;
```

```
        cin>>real;
        cout<<"Enter the imaganary part :"<<endl;
        cin>>imag;
    }
    void display()
    {

        cout<<real<<"+"<<imag<<"i"<<endl;

    }
    complex operator -(complex c)
    {
        complex c3;
        c3.real=real-c.real;
        c3.imag=imag-c.imag;
        return c3;
    }
        friend complex operator +(complex a, complex b)
    {
        complex t;
        t.real=a.real+b.real;
        t.imag=a.imag+b.imag;
            return t;
    }
};

int main()
{
    complex c1,c2,c3;
    c1.getdata();
    c2.getdata();
    cout<<"Two complex numbers are :"<<endl;
    c1.display();
    c2.display();

    cout<<"\nAddition is :"<<endl;
```

```
    c3=c1+c2;
        c3.display();
    cout<<"\nSubstraction is :"<<endl;
    c3=c1-c2;
    c3.display();
     return 0;
}
```

Output :

Enter the real part :
5
Enter the imaganary part :
6
Enter the real part :
5
Enter the imaganary part :
6
Two complex numbers are :
5+6i
5+6i

Addition is :
10+12i

Substraction is :
0+0i

End