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CLASS :   BSE(2A).
ROLL NO :   20P-0079.
SUBJECT :   OPP LAB.

ASSIGNMENT 9.

QUESTION 1.

```cpp
#include<iostream>
using namespace std;
class Rectangle{                    //Class Rectangle
    private:
    float length,width;
    public:
    void setlength(float l){        //Member Function (setters)
        length=l;
```

```cpp
    }
    void setwidth(float w){                //Member Function (setters)
        width=w;
    }
    float perimeter(){                     //Member Function Calculation perimeter
        int P=(2*length)+(2*width);
        return P;

    }
    float area(){                          //Member Function Calculation Area
        float area=length*width;
        return area;
    }
    void show(){                           //Member Function to show data on screen
        cout<<"Length : "<<length<<endl;
        cout<<"Width : "<<width<<endl;
    }
    int sameArea(Rectangle r3){    //Member Function of return tpe int
        if (r3.area()==area()){
            return 1;
        }
        else{
            return 0;
        }
```

```cpp
    }
};
int main(){
    Rectangle r1,r2;              //creating object r1,r2,r3 of class Rectangle
    r1.setlength(5);              //fumction is called for object initialization
    r1.setwidth(2.5);
    r2.setlength(5);
    r2.setwidth(18.9);
    r1.show();
    r2.show();
    cout<<"Perimeter Of 1st Rectangle : "<<r1.perimeter()<<endl;
    cout<<"Area Of 1st Rectangle : "<<r1.area()<<endl;
    cout<<"Perimeter Of 2nd Rectangle : "<<r2.perimeter()<<endl;
    cout<<"Area Of 2nd Rectangle : "<<r2.area()<<endl;
    cout<<r1.sameArea(r2)<<endl;
    r1.setlength(15);
    r1.setwidth(6.3);
    r1.show();
    cout<<"Perimeter Of 1st Rectangle : "<<r1.perimeter()<<endl;;
    cout<<"Area Of 1st Rectangle : "<<r1.area()<<endl;
    cout<<r1.sameArea(r2)<<endl;
}
```

```
Length : 5
Width : 2.5
Length : 5
Width : 18.9
Perimeter Of 1st Rectangle : 15
Area Of 1st Rectangle : 12.5
Perimeter Of 2nd Rectangle : 47
Area Of 2nd Rectangle : 94.5
0
Length : 15
Width : 6.3
Perimeter Of 1st Rectangle : 42
Area Of 1st Rectangle : 94.5
1
```

QUESTION 2.

```cpp
#include<iostream>
using namespace std;
class Complex{ //Class Complex
private:
float real,imaginary; //Data Members
public:
void set(float r,float i ){ //Member Function(setter)
real=r;
imaginary=i;
}
Complex complexsum(Complex c4) //Member Function of parameter Class object
```

```cpp
{
Complex c5;
c5.real = real + c4.real;
c5.imaginary = imaginary + c4.imaginary;
return c5;
}
void disp()
{
cout<<real<<"i"<<"+"<<imaginary<<"j"<<endl;
}
};
int main()
{
Complex C1,C2,C3; //Object Of class Complex
C1.set(2.5,7.1); //fumction is called for object initialization
C2.set(4.2,5.5);
C3=C1.complexsum(C2); //Object is passed as an argument
cout<<"1st complex Number : ";C1.disp();
cout<<"2nd complex Number : ";C2.disp();
cout<<"3rd complex Number : ";C3.disp();
return 0;
}
```

```
1st complex Number : 2.5i+7.1j
2nd complex Number : 4.2i+5.5j
3rd complex Number : 6.7i+12.6j
```