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Course: **Object Oriented Programming using Java**

Experiment no. 6

Aim: To implement Constructors and constructor overloading

Problem Statement 1: WAOOP to count the no. of objects created of a class using constructors.

Code:

```
public class Constructor {static int
        count=0; public Constructor(){
                count++;
        }
        static void display(){
                System.out.println("The number of objects are: "+count);
        }
        public static void main(String[] args) {Constructor obj1=new
                Constructor(); Constructor obj2=new Constructor();
                Constructor obj3=new Constructor(); display();
        }
}
```

Output:

```
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C:\Users\Yash kanjariya\Desktop\D126>javac Constructor.java

C:\Users\Yash kanjariya\Desktop\D126>java Constructor
The number of objects are: 3

C:\Users\Yash kanjariya\Desktop\D126>
```

Problem Statement 2: WAP to display area of square and rectangle using the concept of overloaded constructor (use parameterized, non-parameterized and copy constructor).

Code:

```
import java.util.*;
public class Shape {
    int s;
    float l,b;
    public static void main(String[] args) {
        Shape s=new Shape();
        Shape s1=new Shape(6);
        Shape s2=new Shape(2.1f,5.1f);
        Shape s3=new Shape(s2);
    }
    Shape(){
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the side of the square: ");
        int s=sc.nextInt();
        System.out.println("The area of square: "+(s*s));
    }
    Shape(int a){
        s=a;
        System.out.println("The area of square= "+(s*s));
    }
    Shape(float x,float y){
        l=x;
        b=y;
        System.out.println("Area of the recttangle= "+(l*b));
    }
    Shape(Shape s2){
        l=s2.l;
        b=s2.b;
        System.out.println("Area of rectangle= "+(l*b));
    }

}
```

Output:

```
C:\Users\Yash kanjariya\Desktop\D126>javac Shape.java

C:\Users\Yash kanjariya\Desktop\D126>java Shape
Enter the side of the square:
4
The area of square: 16
The area of square= 36
Area of the recttangle= 10.709999
Area of rectangle= 10.709999

C:\Users\Yash kanjariya\Desktop\D126>
```