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Branch: Computer Science and Engg(Data Science) **Div: D2-3**

Course: **Object Oriented Programming using Java**

Experiment no. 6

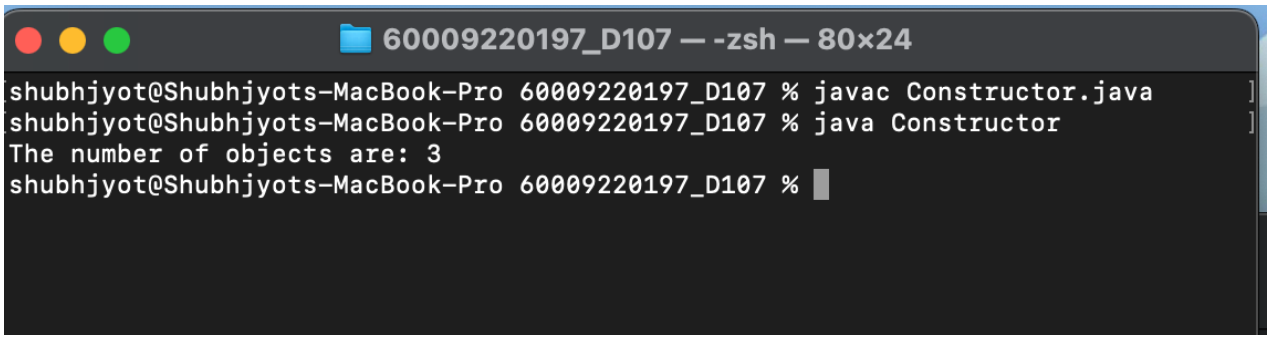
Aim: To implement Constructors and constructor overloading

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

Code: shubhjyot@Shubhjyots-MacBook-Pro 60009220197_D107 % cat Constructor.java

```
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:



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: shubhjyot@Shubhjyots-MacBook-Pro 60009220197_D107 % cat Shape.java

```
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:

```
60009220197_D107 — -zsh — 80×24
[shubhjyot@Shubhjyots-MacBook-Pro 60009220197_D107 % javac Shape.java
[shubhjyot@Shubhjyots-MacBook-Pro 60009220197_D107 % java Shape
Enter the side of the square:
8
The area of square: 64
The area of square= 36
Area of the recttangle= 10.709999
Area of rectangle= 10.709999
shubhjyot@Shubhjyots-MacBook-Pro 60009220197_D107 %
```