

Assignment 7

Q1. Define a class Calculator that has:

- Instance variable: int result
- Static variable: int operationCount
- Instance method: add(int a, int b)
- Static method: displayOperationCount()

Call the methods and show the effect of static and instance variables.

Program:

```
import java.util.Scanner;

class Calculator{

    int result;

    static int operationCount;

    void add(int a,int b){

        result=a+b;

        operationCount++;

        System.out.println(result);

    }

    static void displayOperationCount(){

        System.out.println(operationCount);

    }

    public static void main(String[] args){

        Calculator c1=new Calculator();

        Calculator c2=new Calculator();

        c1.add(1,2);

        c1.add(5,7);

        Calculator.displayOperationCount();

    }
}
```

Q2. Create a class BankAccount with private balance and methods to deposit and getBalance.

Try accessing the balance directly from another class and note the error.

Program:

```
import java.util.Scanner;
public class Main {
    private int bal=0;
    void deposit(){
        bal+=100;
        System.out.println("deposited");
    }
    void getbalance(){
        System.out.println(bal);
    }
    class Bank{
        public static void main(String[] args){
            BankAcc=new BankAcc();
            obj.deposit();
            obj.getbalance();
        }
    }
}
```

Q3. Create a class Student with roll number and name. Initialize it using a parameterized constructor. Add another constructor to initialize with roll number only and name as "Unknown". Print both using a display method.

- *Objective:* Use overloaded constructors with default values.

Program:

```
import java.util.Scanner;

class Student{
    int rollNo;
    String name;
    Student(int rollNo,String name){
        this.rollNo=rollNo;
        this.name=name;
    }
}
```

```
}  
Student(int rollno){  
    int rollno=rollno;  
    this.name="unknown";  
}  
void display(){  
    System.out.println(rollno);  
    System.out.println(name);  
}  
public static void main(String[] args){  
    Student s1=new Student(101,"sivara");  
    Student s2=new Student(10);  
    s1.display();  
    s2.display();  
}  
}
```