Experiment Number	3
Date of Experiment	09/01/2025
Date of Submission	09/01/2025
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Roll Number	2330335
Section	ECSc-6

- **Title of the experiment :**

  Class, Objects and Methods in Java

- **Aim of The experiment :**

  To learn Java programs related to class, objects and methods.

- **Programming Language used :**

  Java

- **Problem Statement & Solution :**

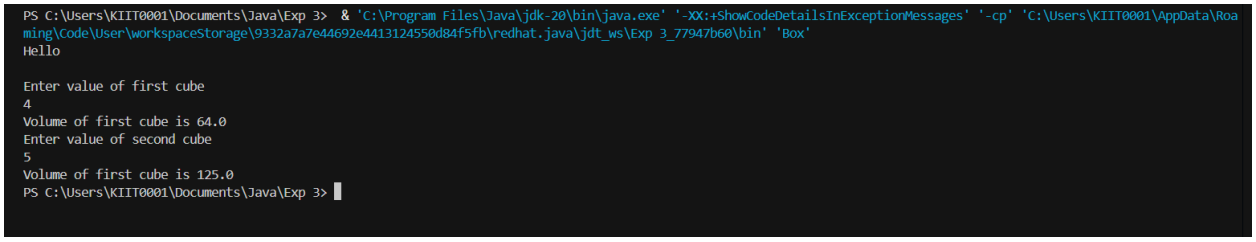
  1. Modify the Java program BoxDemo.java to do the following:

  1. create two objects of class Box
  2. assign values to two objects using objects' instance-variables and get the volumes of two boxes
  3. set values to two objects using parameterized methods and get the volumes of two boxes

Solution :

```
import java.util.*;
class box1
{
double side;
double volume()
{
        return side * side * side;
}
}
public class Box {
public static void main(String args[])
{
        System.out.println("Hello \n");
        box1 cube_a = new box1();
        box1 cube_b = new box1();
        try(Scanner sc=new Scanner(System.in))
        {
                System.out.println("Enter value of first cube");
                cube_a.side=sc.nextDouble();
                System.out.println("Volume of first cube is "+cube_a.volume());
                System.out.println("Enter value of second cube");
                cube_b.side=sc.nextDouble();
                System.out.println("Volume of first cube is "+cube_b.volume());
        }
}
}
```

Output :

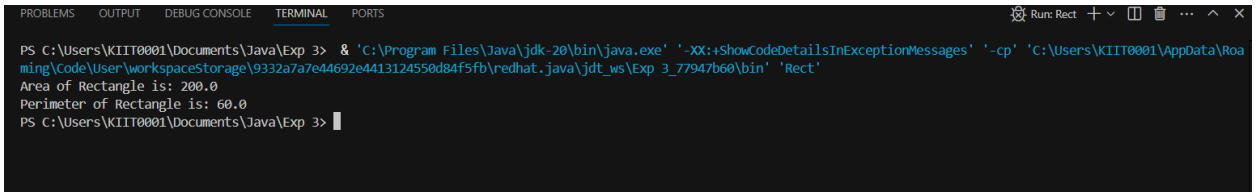


2. Write a Java program to calculate the area and perimeter of a rectangle using the concepts of class, objects and methods.

Solution :

```
class Rectangle
{
   double length;
   double breadth;
   double area()
   {
      return length*breadth;
   }
   double perimeter()
   {
      return 2*(length+breadth);
   }
}
public class Rect
{
   public static void main(String[] args)
  {
      Rectangle r = new Rectangle();
      r.length = 10;
      r.breadth = 20;
      System.out.println("Area of Rectangle is: "+r.area());
      System.out.println("Perimeter of Rectangle is: "+r.perimeter());
   }
}
```

Output :



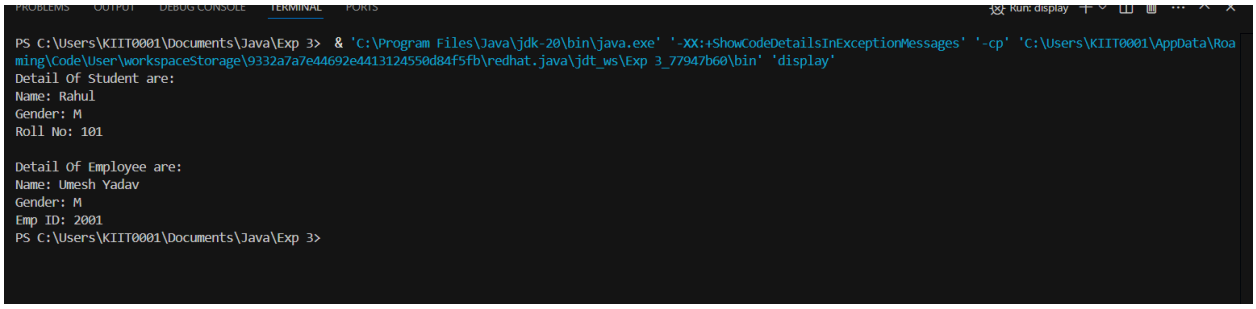
3. Create a Java class called uniMember which has instance-variables name and gender. Within this class, create two more classes, Student with instance-variable roll number and Faculty with instance-variable employee id. Write the Java methods to enter the details (name, gender, roll number, employee id) of a student and a faculty and display the same on the console.

Solution :

```
class UniMember {
    String name;
    char gender;
    class Student {
        int Roll_No;
    }
    class Employee {
        int Emp_ID;
    }
}

public class display{
    public static void main(String[] args) {
        UniMember std = new UniMember();
        UniMember.Student student = std.new Student();

        std.name = "Rahul";
        std.gender = 'M';
        student.Roll_No = 101;

        UniMember empMember = new UniMember();
        UniMember.Employee empEmployee = empMember.new Employee();
        empMember.name = "Umesh Yadav";
        empMember.gender = 'M';
        empEmployee.Emp_ID = 2001;

        System.out.println("Detail Of Student are: ");
        System.out.println("Name: " + std.name);
        System.out.println("Gender: " + std.gender);
        System.out.println("Roll No: " + student.Roll_No);
```

```
        System.out.println("\nDetail Of Employee are: ");
        System.out.println("Name: " + empMember.name);
        System.out.println("Gender: " + empMember.gender);
        System.out.println("Emp ID: " + empEmployee.Emp_ID);
    }
}
```

Output :



- **Conclusion :**

  Learned to develop to develop Java programs using classes , objects and methods.

Faculty Signature