

# HOME WORK

Reg.Number :-SUE/IS /20/ICT/084

Submission Due: 2023-06-08

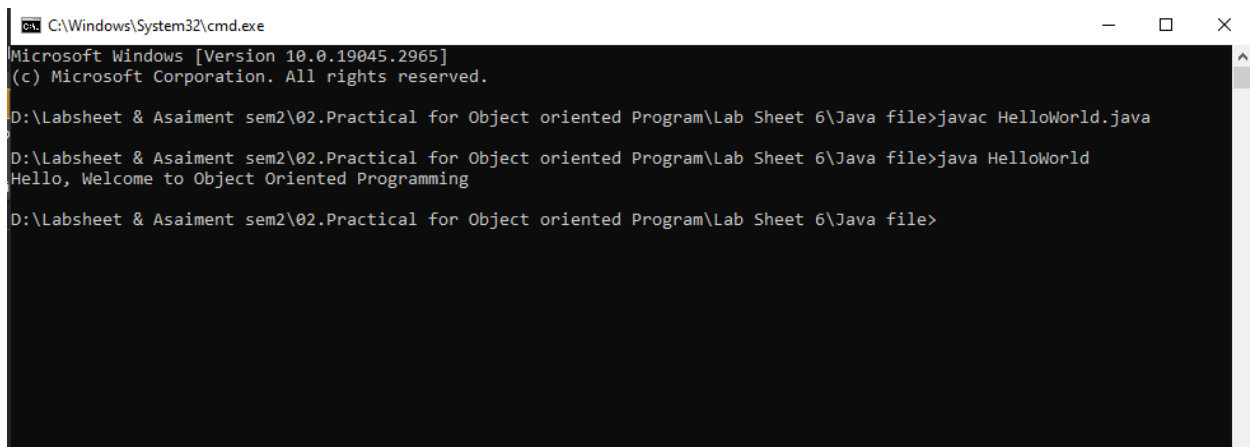
## Exercise 01:

01. Create your first java program that will print, “Hello, Welcome to Object Oriented Programming!”.
  - a. Make the name of the class as ‘**HelloWorld**’.
  - b. Write the main method that will execute the print statement given.
  - c. Save the program by giving the file name same as class class and with the .java extension.
  - d. Compile the program you created.
  - e. Execute the program you created

## Answer :-

```
public class HelloWorld{  
  
    public static void main (String []args){  
  
        System.out.println("Hello, Welcome to Object Oriented Programming");  
  
    }  
  
}
```

## Output:-



```
C:\Windows\System32\cmd.exe  
Microsoft Windows [Version 10.0.19045.2965]  
(c) Microsoft Corporation. All rights reserved.  
  
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file>javac HelloWorld.java  
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file>java HelloWorld  
Hello, Welcome to Object Oriented Programming  
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file>
```

2. Create a class to display the following.

**Name : Sam**

**Subject: OOP**

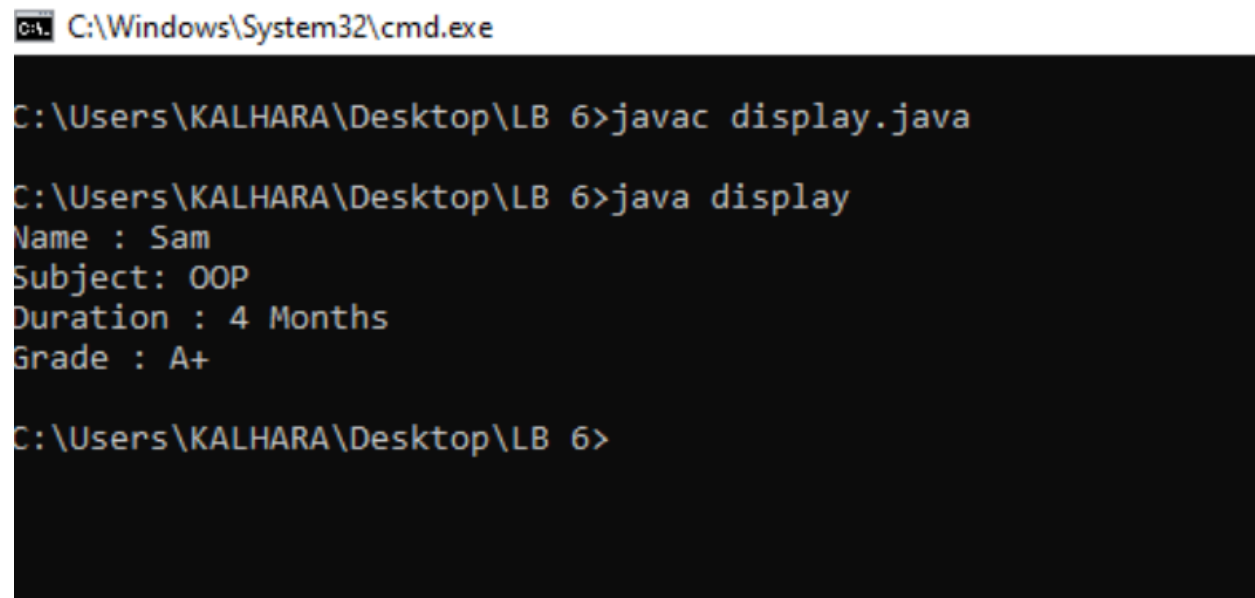
**Duration : 4 Months**

**Grade : A+**

**Answer :-**

```
public class display{  
    public static void main (String []args){  
  
        System.out.println("Name : Sam");  
        System.out.println("Subject: OOP");  
        System.out.println("Duration : 4 Months");  
        System.out.println("Grade : A+");  
    }  
}
```

**Output:-**



The screenshot shows a Windows command prompt window titled "C:\Windows\System32\cmd.exe". The user is in the directory "C:\Users\KALHARA\Desktop\LB 6". They first compile the program using "javac display.java". Then, they run the program using "java display". The output of the program is displayed as follows:

```
C:\Users\KALHARA\Desktop\LB 6>javac display.java  
C:\Users\KALHARA\Desktop\LB 6>java display  
Name : Sam  
Subject: OOP  
Duration : 4 Months  
Grade : A+  
C:\Users\KALHARA\Desktop\LB 6>
```

### Exercise 02:

1. Create a class called **Student**. Within this class
  - a. Define two variables namely **id** and **name**.
  - b. Initialize **id** to **1** and **name** to **Kamal**.
  - c. Create an object **s1**
  - d. Access the objects through reference variable.

Answer :-

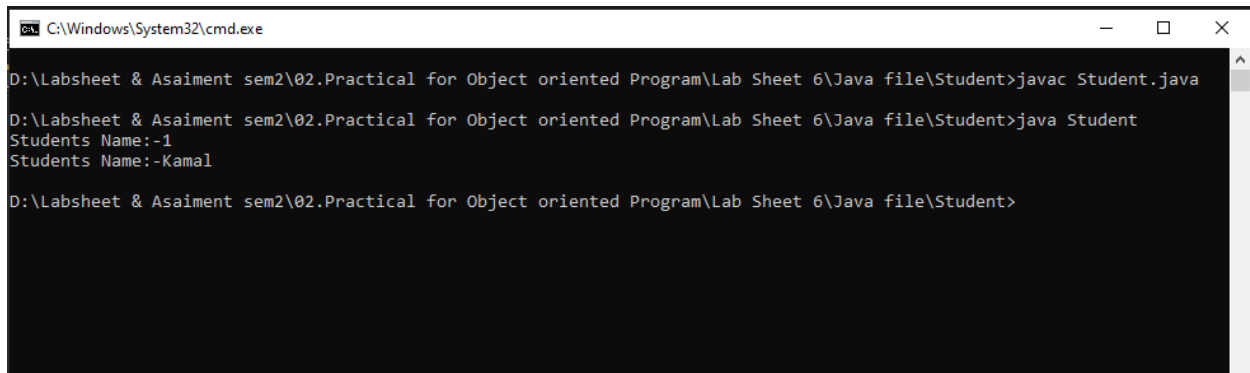
```
public class Student{
    int id =1;
    String name="Kamal";

    public static void main(String []args){

        Student S1= new Student();

        System.out.println("Students Name:-"+S1.id);
        System.out.println("Students Name:-"+S1.name);
    }
}
```

Output:-



```
C:\Windows\System32\cmd.exe
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file\Student>javac Student.java
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file\Student>java Student
Students Name:-1
Students Name:-Kamal
D:\Labsheet & Asaiment sem2\02.Practical for Object oriented Program\Lab Sheet 6\Java file\Student>
```

2. Modify the above program to bring the main method inside a separate class called **TestStudent**.

- a. Create an object **s1**
- b. Access the objects through reference variable.

Answer :-

```
public class Student{
    int id =1;
    String name="Kamal";
```

```

}

class TestStudent{

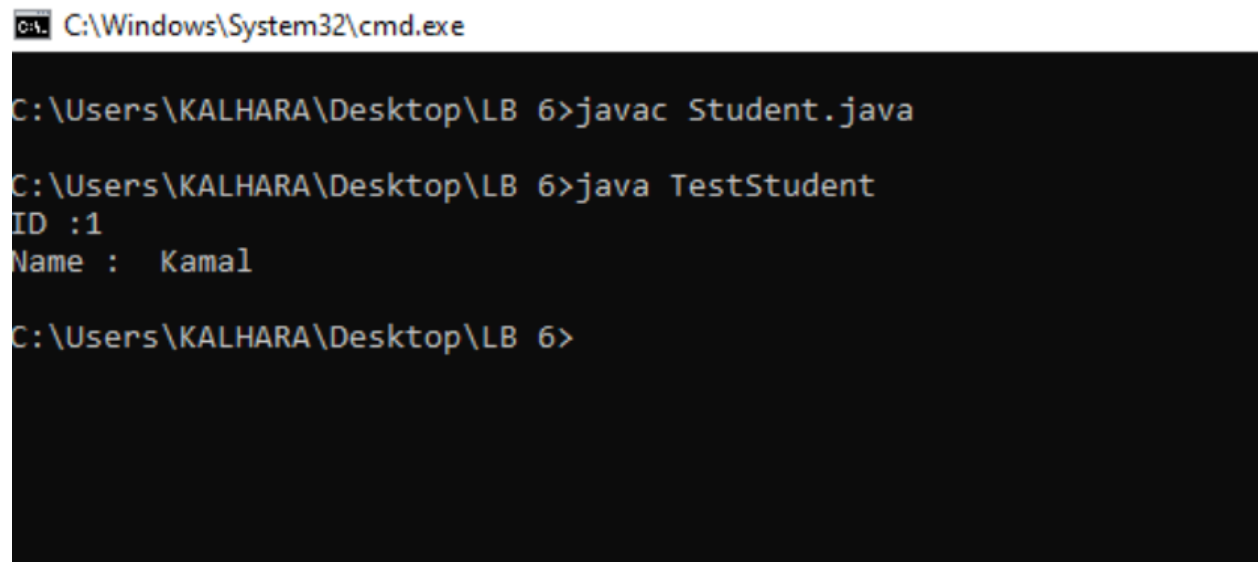
    public static void main(String []args){

        Student S1= new Student();

        System.out.println("ID:-"+S1.id);
        System.out.println("Name:-"+S1.name);
    }
}

```

Output:-



```

C:\Windows\System32\cmd.exe

C:\Users\KALHARA\Desktop\LB 6>javac Student.java

C:\Users\KALHARA\Desktop\LB 6>java TestStudent
ID :1
Name : Kamal

C:\Users\KALHARA\Desktop\LB 6>

```

2. Modify question 2 as per the following instructions:

- a. Create a method called **insertStudentRecord()** inside **Student** class to initialize id and name
- b. Create another method **displayStudentDetails()** inside **Student** class to display the student information.
- c. Create another object **s2** inside **TestStudent**.
- d. Call the method **insertStudentRecord()** to enter student data and **displayStudentDetails()** method to display the details of the students

Answer :-

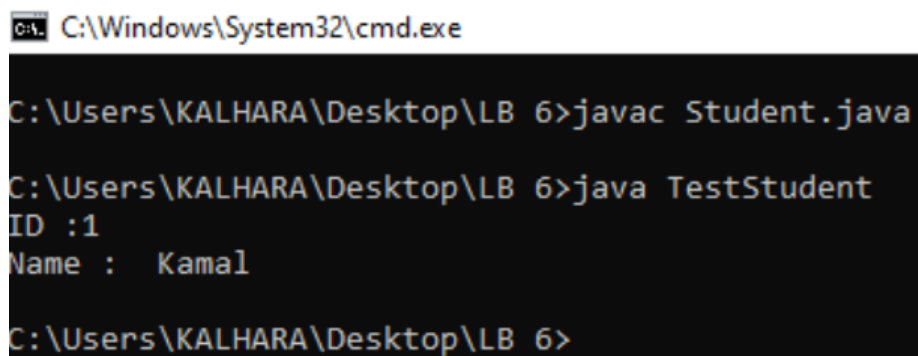
```
public class Student{
    int id;
    String name;
    void insertStudentRecord(int Sid,String Sname){

        id =Sid;
        name=Sname;

    }
    void displayStudentDetails(){
        System.out.println("ID :"+id);
        System.out.println("Name : "+name);
    }
}

class TestStudent{
    public static void main (String []args){
        Student S2 =new Student();
        S2.insertStudentRecord(1," Kamal");
        S2.displayStudentDetails();
    }
}
```

Output:-



The screenshot shows a Windows command prompt window with the title bar 'C:\Windows\System32\cmd.exe'. The command prompt is at the directory 'C:\Users\KALHARA\Desktop\LB 6'. The user has entered the command 'javac Student.java' and then 'java TestStudent'. The output of the program is displayed as 'ID :1' and 'Name : Kamal' on separate lines. The prompt is now waiting for the next command.

```
C:\Windows\System32\cmd.exe
C:\Users\KALHARA\Desktop\LB 6>javac Student.java
C:\Users\KALHARA\Desktop\LB 6>java TestStudent
ID :1
Name : Kamal
C:\Users\KALHARA\Desktop\LB 6>
```

### Exercise 03:

1. Create a class called Employee. Within the class,
  - a. Create the variables empid, name and salary (salary is a float value).
  - b. Create a method called insert() to enter employee data.
  - c. Next, create another method display() to display the employee details.
2. Within the same program, create another class TestEmployee with the main method.
  - a. Here, create three instances, emp1, emp2 and emp3.
  - b. Call the method insert() to enter employee data and display() method to display the employee details

Answer :-

```
public class Employee{

    String empid;
    String name;
    float salary ;

    void insert(String Sempid,String Sname,float Ssalary ){

        empid =Sempid;
        name =Sname;
        salary =Ssalary;

    }

    void display(){

        System.out.println("EmpID: "+empid);
        System.out.println("Name : "+name);
        System.out.println("sSlary :"+salary);

    }

}

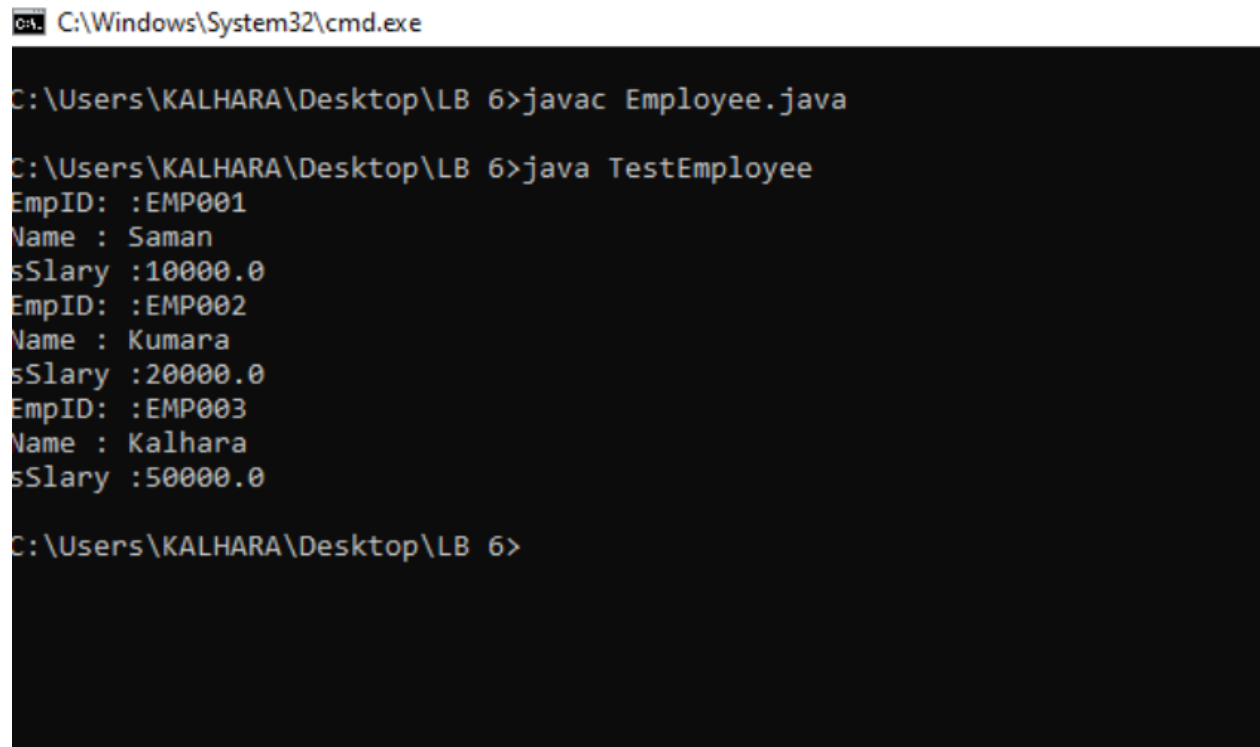
class TestEmployee{

    public static void main(String[] args) {

        Employee emp1 =new Employee();
        Employee emp2 =new Employee();
        Employee emp3 =new Employee();
```

```
        emp1.insert("EMP001","Saman",10000);  
        emp1.display();  
        emp2.insert("EMP002","Kumara",20000);  
        emp2.display();  
        emp3.insert("EMP003","Kalhara",50000);  
        emp3.display();  
    }  
}
```

**Output:-**



```
C:\Windows\System32\cmd.exe  
  
C:\Users\KALHARA\Desktop\LB 6>javac Employee.java  
  
C:\Users\KALHARA\Desktop\LB 6>java TestEmployee  
EmpID: :EMP001  
Name : Saman  
sSalary :10000.0  
EmpID: :EMP002  
Name : Kumara  
sSalary :20000.0  
EmpID: :EMP003  
Name : Kalhara  
sSalary :50000.0  
  
C:\Users\KALHARA\Desktop\LB 6>
```

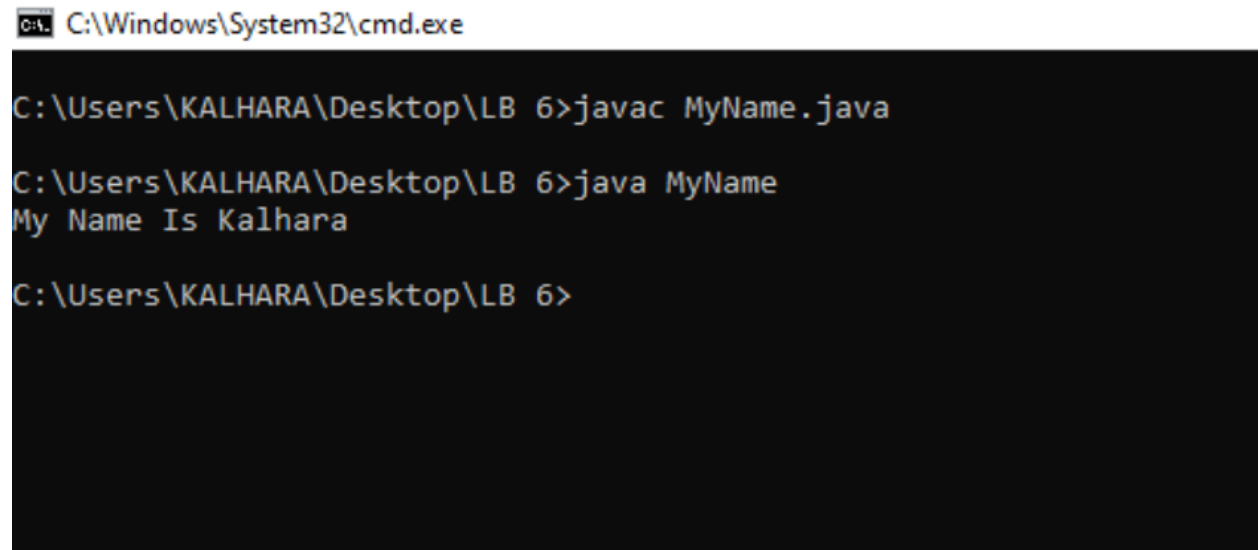
**Exercise 04:**

1. Create a class called MyName to print your name
2. Create a class to display the following  
Java is an example for OOP  
It is a pure Object Oriented language

**Answer :-**

```
public class MyName{  
  
    public static void main(String[] args) {  
        System.out.println("My Name Is Kalhara");  
    }  
}
```

**Output:-**



C:\Windows\System32\cmd.exe

```
C:\Users\KALHARA\Desktop\LB 6>javac MyName.java  
  
C:\Users\KALHARA\Desktop\LB 6>java MyName  
My Name Is Kalhara  
  
C:\Users\KALHARA\Desktop\LB 6>
```



3.

- Create a class called Rectangle. Within the class,
  - I. Create the variables length and width.
  - II. Create a method called insert() to enter rectangle details.
  - III. Next, create another method calculateArea() to calculate the area of the given rectangle.
- Within the same program, create another class TestRectangle with the main method.
  - I. Here, create two instances, rect1 and rect2.
  - II. Call the method insert() to enter length and width values of rectangle and calculateArea() method to display the area of the rectangles.

Answer :-

```
import java.util.Scanner;

public class Rectangle{

    int length;
    int width;

    void insert(){

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter You length:");
        length =scanner.nextInt();

        System.out.print("Enter You width:");
        width =scanner.nextInt();

    }

    static int calculateArea(int length,int width){
        return length*width;
    }

}

class TestRectangle{

    public static void main(String[] args) {
```

```
        Rectangle rect1 = new Rectangle();


        rect1.insert();
        System.out.println("calculateArea is "+rect1.calculateArea(rect1.length,rect1.width));

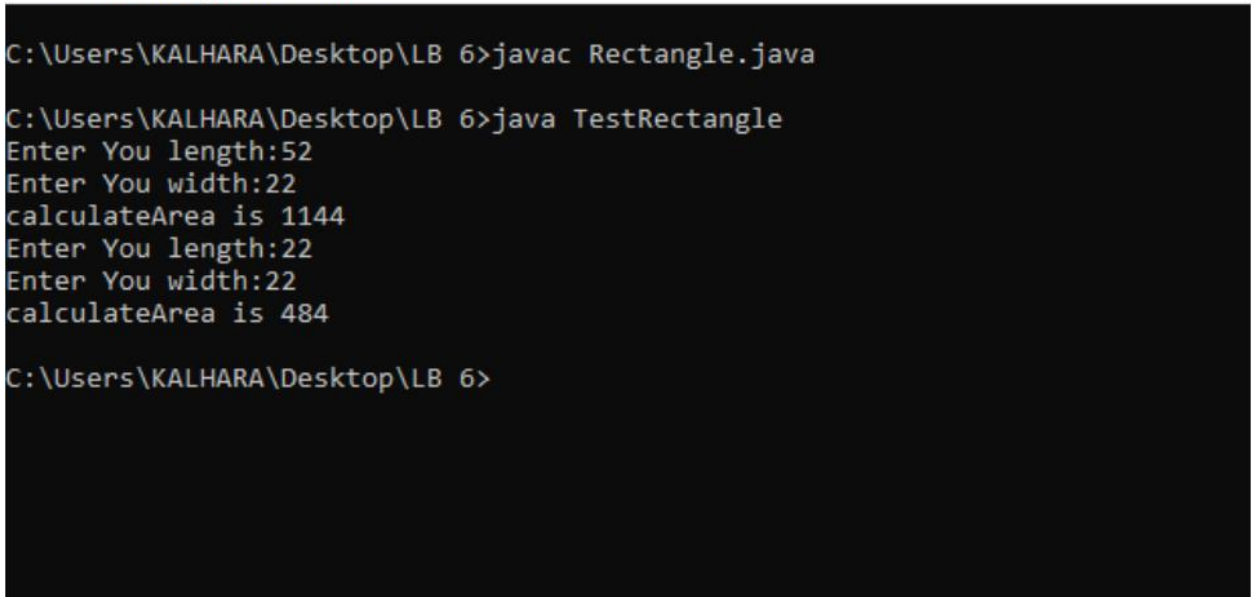
        Rectangle rect2 = new Rectangle();

        rect2.insert();
        System.out.println("calculateArea is "+rect2.calculateArea(rect2.length,rect2.width));

    }
}
```

**Output:-**

 C:\Windows\System32\cmd.exe



```
C:\Users\KALHARA\Desktop\LB 6>javac Rectangle.java

C:\Users\KALHARA\Desktop\LB 6>java TestRectangle
Enter You length:52
Enter You width:22
calculateArea is 1144
Enter You length:22
Enter You width:22
calculateArea is 484

C:\Users\KALHARA\Desktop\LB 6>
```