

# HOME WORK

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

Submission Due: 2023-06-08

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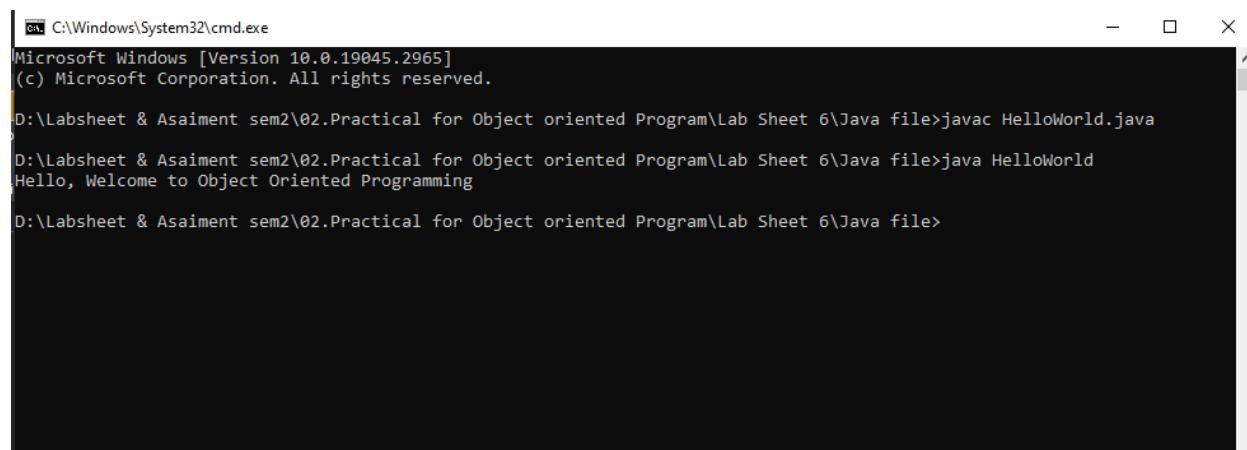
## Exercise 01:

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:-**



The screenshot shows a Windows Command Prompt window titled 'cmd' with the path 'C:\Windows\System32\cmd.exe'. The window displays the following text:  
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:-**

```
C:\Windows\System32\cmd.exe  
  
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>
```

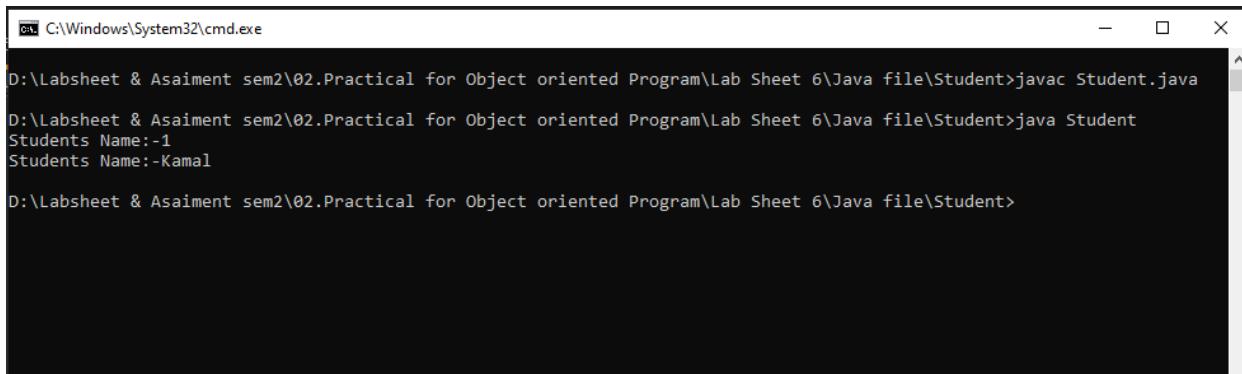
### **Exercise 02:**

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){

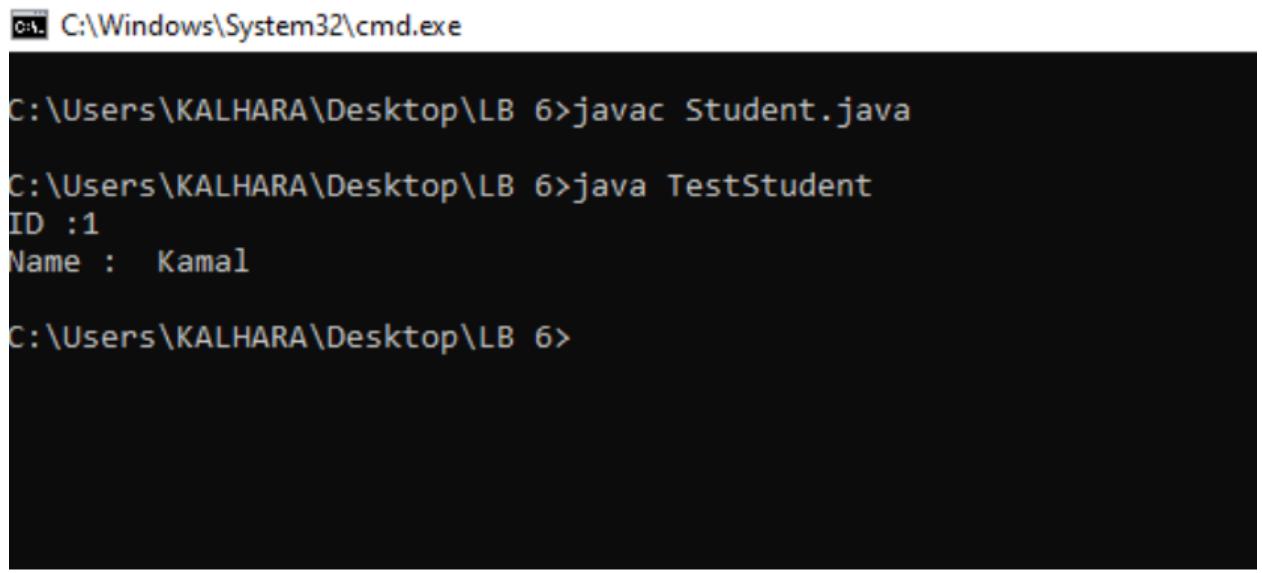
        id =Sid;
        name=Sname;

    }
    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:-**



```
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("Salary : "+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
Salary :10000.0
EmpID: :EMP002
Name : Kumara
Salary :20000.0
EmpID: :EMP003
Name : Kalhara
Salary :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

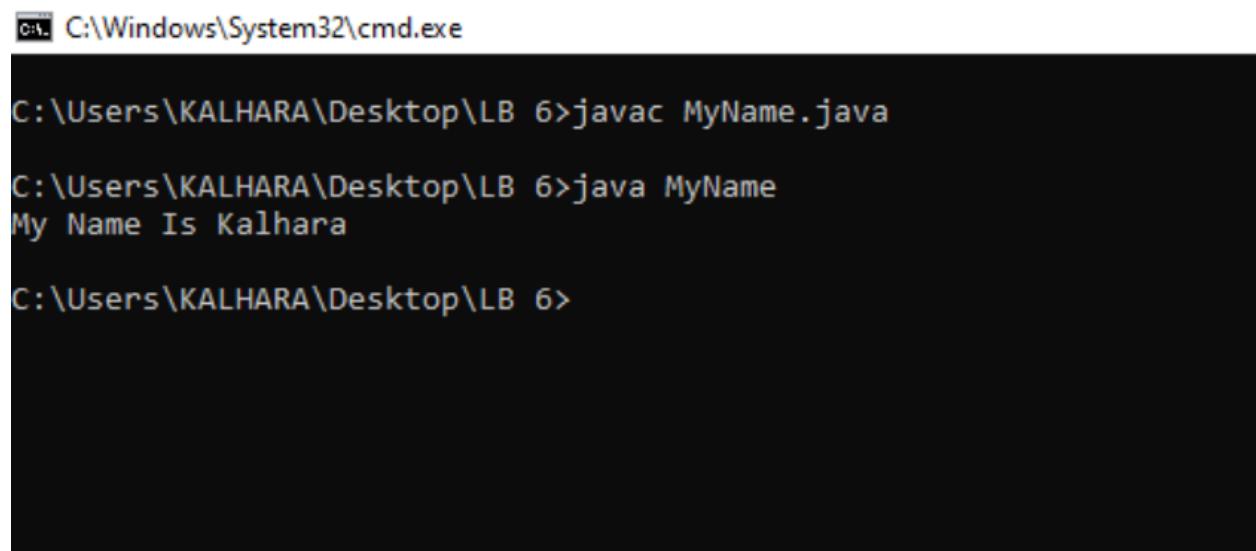
Java is an example for OOP

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:-**



The screenshot shows a Windows Command Prompt window titled 'C:\Windows\System32\cmd.exe'. The command line shows the path 'C:\Users\KALHARA\Desktop\LB' followed by the command 'javac MyName.java'. The output of the compilation is 'My Name Is Kalhara', which is then displayed when the command 'java MyName' is run. The prompt returns to the command line after the execution.

```
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 Your length:");
        length = scanner.nextInt();

        System.out.print("Enter Your 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));

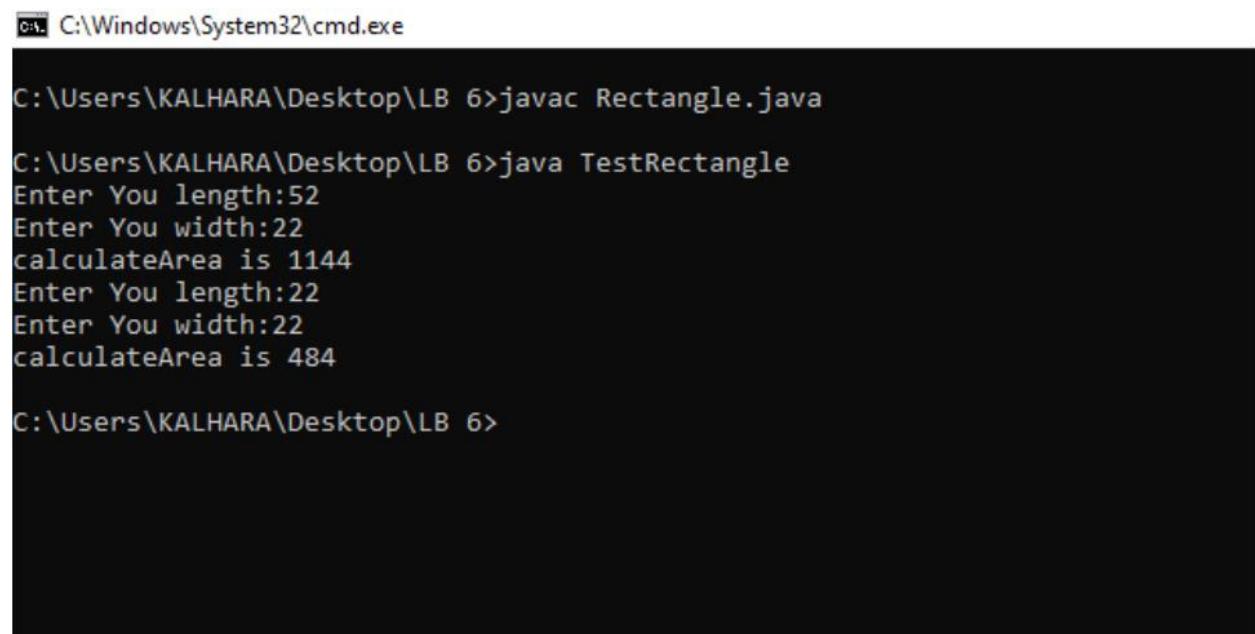
        Rectangle rect2 = new Rectangle();

        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>
```