

**SWT 12031: Practical for  
Object oriented Program**

**Department of Information  
and Communication  
Technology  
Faculty of Technology**

**Labsheet 03  
Reg. Number: SEU/IS/20/ICT/084  
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Practical No : 03**

**Exercise 01:**

1. 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.

```
public class HelloWorld{  
    public static void main (String []args){  
        System.out.println("Hello World");  
    }  
}
```

Output :

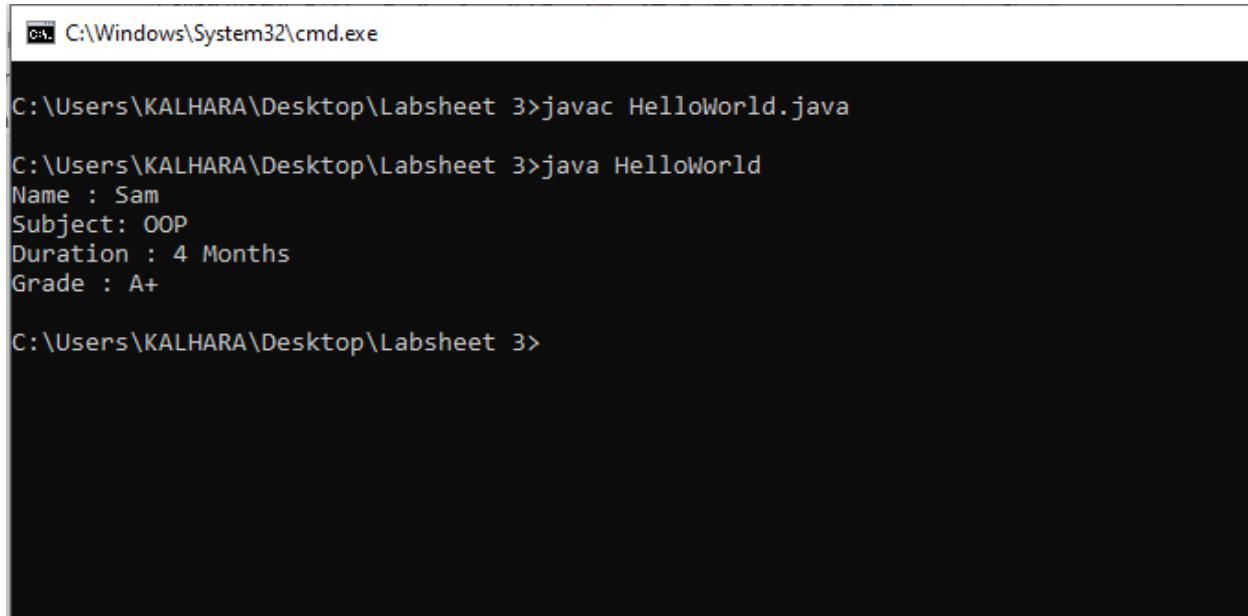
```
C:\Windows\System32\cmd.exe  
Microsoft Windows [Version 10.0.19044.1288]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\KALHARA\Desktop\Labsheet 3>javac HelloWorld.java  
C:\Users\KALHARA\Desktop\Labsheet 3>java HelloWorld  
Hello World  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

2. Create a class to display the following.

**Name : Sam**  
**Subject: OOP**  
**Duration : 4 Months**  
**Grade : A+**

```
public class HelloWorld{  
    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 'cmd' with the path 'C:\Windows\System32\cmd.exe'. The command 'javac HelloWorld.java' is entered and executed, followed by the command 'java HelloWorld'. The output displays the four printed statements from the Java code: 'Name : Sam', 'Subject: OOP', 'Duration : 4 Months', and 'Grade : A+'. The prompt then changes to 'C:\Users\KALHARA\Desktop\Labsheet 3>'.

```
C:\Windows\System32\cmd.exe  
C:\Users\KALHARA\Desktop\Labsheet 3>javac HelloWorld.java  
C:\Users\KALHARA\Desktop\Labsheet 3>java HelloWorld  
Name : Sam  
Subject: OOP  
Duration : 4 Months  
Grade : A+  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

**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 the variable.

```
public class Student{  
    int id = 1;  
    String Name ="Kamal";  
    public static void main (String []args){  
  
        Student obj =new Student();  
  
        System.out.println("Student Id is:" + obj.id);  
        System.out.println("Student Name is:"+ obj.Name);  
  
    }  
}
```

**Output:**

```
C:\Windows\System32\cmd.exe  
  
C:\Users\KALHARA\Desktop\Labsheet 3>javac Student.java  
  
C:\Users\KALHARA\Desktop\Labsheet 3>java Student  
Student Id is:1  
Student Name is:Kamal  
  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

**Exercise 03:**

- 1. Create a class called with your name. Within this class,**
  - a. Get the user input for your registration no.**
  - b. Get the user input for your name.**
  - c. Merge and Display both data with the same Output**

```
import java.util.Scanner;
public class Main{
    public static void main (String[] args){
        Scanner sca =new Scanner(System.in);
        Scanner sca2 =new Scanner(System.in);
        int reg_no;
        String Name;

        System.out.print("Enter you registration no:");
        reg_no = sca.nextInt();
        System.out.print("Enter you Name:");
        Name = sca2.nextLine();

        System.out.println();
        System.out.println("registration no:" +reg_no);
        System.out.println("Name:" +Name);

    }
}
```

Output:

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

C:\Users\KALHARA\Desktop\Labsheet 3>javac Main.java
C:\Users\KALHARA\Desktop\Labsheet 3>java Main
Enter you registration no:084
Enter you Name:kalhara

registration no:84
Name:kalhara

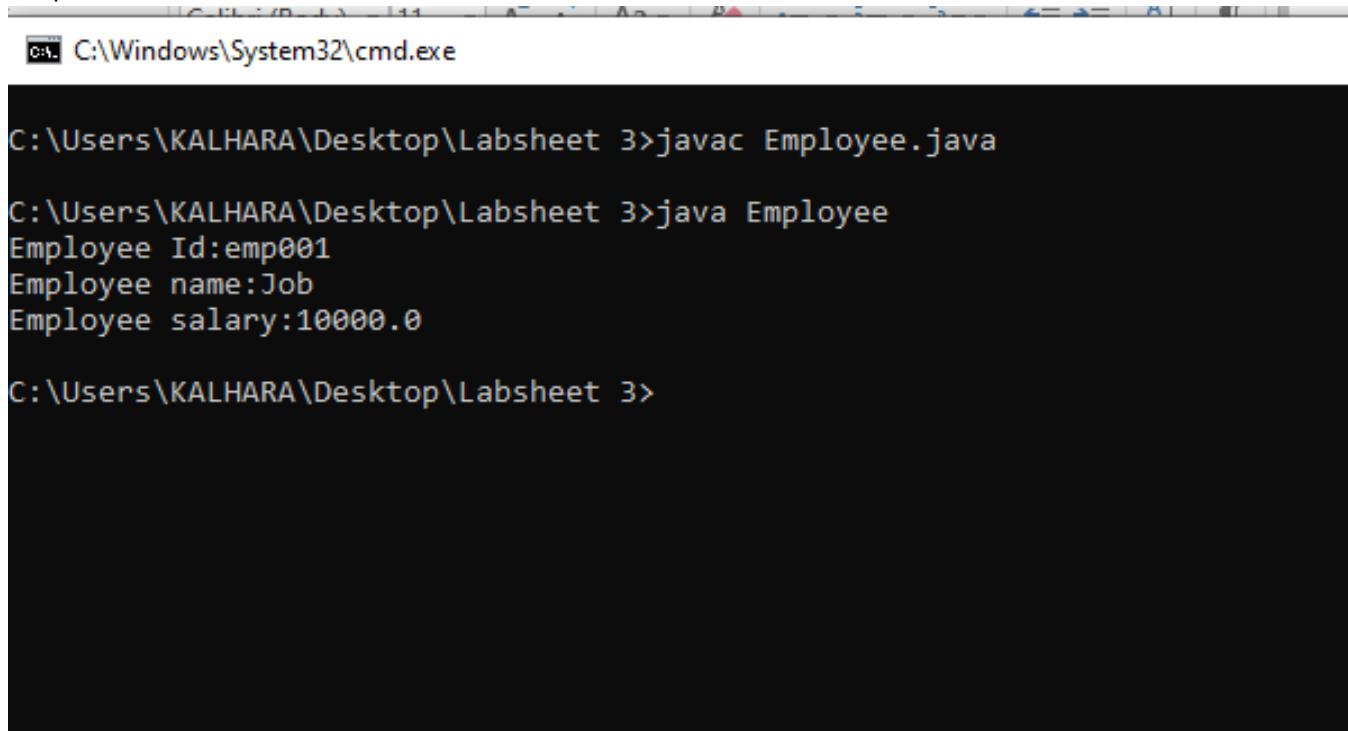
C:\Users\KALHARA\Desktop\Labsheet 3>
```

Exercise 04:

1. Create a class called Employee. Within the class,
  - a. Create the variables empid, name and salary (salary is a float value).
  - b. Display everything.

```
public class Employee{  
    public static void main(String[] args){  
  
        String empid ="emp001";  
        String name ="Job";  
        float salary =10000.0f;  
        System.out.println("Employee Id:"+empid);  
        System.out.println("Employee name:"+name);  
        System.out.println("Employee salary:"+salary);  
    }  
}
```

Output :



The screenshot shows a Windows Command Prompt window titled "cmd C:\Windows\System32\cmd.exe". The command line shows the path "C:\Users\KALHARA\Desktop\Labsheet 3>" followed by the command "javac Employee.java". The output of the program execution is displayed below, showing the printed values for empid, name, and salary.

```
C:\Users\KALHARA\Desktop\Labsheet 3>javac Employee.java  
C:\Users\KALHARA\Desktop\Labsheet 3>java Employee  
Employee Id:emp001  
Employee name:Job  
Employee salary:10000.0
```

Exercise 05:

1. Create a class called MyName to print your name.

```
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 'cmd.exe' with the path 'C:\Windows\System32\cmd.exe'. The command 'javac MyName.java' is run, followed by 'java Myame', which results in an error message: 'Error: Could not find or load main class Myame' and 'Caused by: java.lang.ClassNotFoundException: Myame'. The prompt then returns to 'C:\Users\KALHARA\Desktop\Labsheet 3>'.

2. Create a class to display the following

Java is an example for OOP  
It is a pure Object Oriented language

```
public class MyClass{
    public static void main(String[] args){
        System.out.println("Java is an example for OOP ");
        System.out.println("It is a pure Object Oriented language");
    }
}
```

Output:

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

C:\Users\KALHARA\Desktop\Labsheet 3>javac MyClass.java

C:\Users\KALHARA\Desktop\Labsheet 3>java MyClass
Java is an example for OOP
It is a pure Object Oriented language

C:\Users\KALHARA\Desktop\Labsheet 3>
```

3.

- Create a class called Rectangle. Within the class,
  - I. Create the variables length and width.
  - II. Find the Area of the rectangle.

```
public class Rectangle{
    public static void main (String []args){
        int length = 50;
        int width =100;
        int Area;
        Area =length*width;
        System.out.println("Area is:"+Area);
    }
}
```

Output:

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

C:\Users\KALHARA\Desktop\Labsheet 3>javac Rectangle.java

C:\Users\KALHARA\Desktop\Labsheet 3>java Rectangle
Area is:5000

C:\Users\KALHARA\Desktop\Labsheet 3>
```

Exercise 06:

Exercise 06:

**Write a Java program to calculate a bike's average consumption from the given total distance (integer value) traveled (in km) and spent fuel (in liters, float number – 2 decimal point).  
Hint :- (distance/Fuel liters)**

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

        float distance = 500;
        float Fuel_liters=100;
        float average;
        average =distance/Fuel_liters;
        System.out.println("Average is:"+average);
    }
}
```

Output:



The screenshot shows a Windows Command Prompt window titled 'C:\Windows\System32\cmd.exe'. The command line shows the user navigating to their desktop directory ('C:\Users\KALHARA\Desktop\LabSheet 3') and running the Java compiler ('javac Average.java'). After compilation, the user runs the generated Java application ('java Average'), which outputs the average consumption as 'Average is:5.0'.

```
C:\Windows\System32\cmd.exe
C:\Users\KALHARA\Desktop\LabSheet 3>javac Average.java
C:\Users\KALHARA\Desktop\LabSheet 3>java Average
Average is:5.0
C:\Users\KALHARA\Desktop\LabSheet 3>
```

### Exercise 07:

Write a Java program to print the following characters in a reverse way.

Test Characters: 'X', 'M', 'L' -> 'L','M','X'

```
public class Characters{  
    public static void main (String[] args){  
        char x='L',y ='M',z='X';  
        System.out.println("X,M,L->" +x+"," +y+"," +z );  
    }  
}
```

Output:

```
C:\Windows\System32\cmd.exe  
  
C:\Users\KALHARA\Desktop\Labsheet 3>javac Characters.java  
  
C:\Users\KALHARA\Desktop\Labsheet 3>java Characters  
X,M,L->L,M,X  
  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

### Exercise 08:

Write a java program to read 05 numbers from the keyboard and find their sum and average

```
import java.util.Scanner;  
  
public class Ex8{  
    public static void main(String []args){  
        int num1,num2,num3,num4,num5,sum;  
        float avg;  
        Scanner NUM1 = new Scanner(System.in);  
        System.out.print("Enter you Number 1:");  
        num1 =NUM1.nextInt();  
        System.out.print("Enter you Number 2:");  
        num2 =NUM1.nextInt();  
        System.out.print("Enter you Number 3:");  
        num3 =NUM1.nextInt();  
        System.out.print("Enter you Number 4:");  
        num4 =NUM1.nextInt();
```

```

        System.out.print("Enter you Number 5:");
        num5 =NUM1.nextInt();

        sum =num1+num2+num3+num4+num5;
        avg =sum/5;
        System.out.println("Sumery is:"+sum);
        System.out.println("Average. is:"+avg);
    }
}

```

Output:

```

C:\Windows\System32\cmd.exe

C:\Users\KALHARA\Desktop\Labsheet 3>javac Ex8.java
C:\Users\KALHARA\Desktop\Labsheet 3>java Ex8
Enter you Number 1:152
Enter you Number 2:3
Enter you Number 3:25
Enter you Number 4:45
Enter you Number 5:22
Sumery is:270
Average. is:54.0

C:\Users\KALHARA\Desktop\Labsheet 3>

```

### **Exercise 09:**

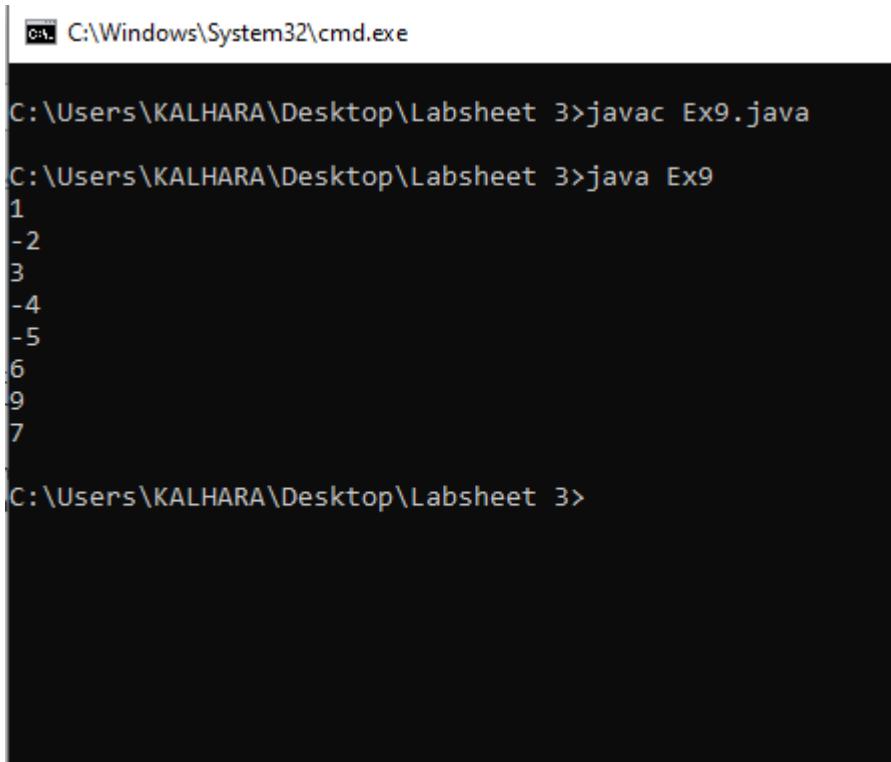
Write the java program to Print all elements of 2d array given below the numbers Using for Loop

```

public class Ex9{
    public static void main(String[] args){
        int [][] Ar={{1,-2,3,-4},{-5,6,9,7}};
        for (int x=0;x<Ar.length;++x){
            for(int y=0;y<Ar[x].length;++y){
                System.out.println(Ar[x][y]);
            }
        }
    }
}

```

Output:



```
C:\Windows\System32\cmd.exe
C:\Users\KALHARA\Desktop\Labsheet 3>javac Ex9.java
C:\Users\KALHARA\Desktop\Labsheet 3>java Ex9
1
-2
3
-4
-5
6
9
7
C:\Users\KALHARA\Desktop\Labsheet 3>
```

**Exercise 10:**

Write the java program to print given below the patterns

a.

```
public class Patten{
    public static void main(String[] args){
        int i,j,n=6;
        for(i=0;i<n;i++){
            for (j=2*(n-i);j>=0;j--){
                System.out.print(" ");
            }
            for(j=0;j<=i;j++){
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

## Output:

Output:

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

C:\Users\KALHARA\Desktop\Labsheet 3>javac PattenB.java

C:\Users\KALHARA\Desktop\Labsheet 3>java PattenB
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27 28

C:\Users\KALHARA\Desktop\Labsheet 3>
```

c.

```
public class PattenC{
    public static void main(String[] args){
        int x,y,alphabet =65;
        for(x=0;x<=9;x++){
            for(y=0;y<=x;y++){
                System.out.print((char) alphabet+" ");
            }
            alphabet++;
            System.out.println();
        }
    }
}
```

Output:

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

C:\Users\KALHARA\Desktop\Labsheet 3>javac PattenC.java

C:\Users\KALHARA\Desktop\Labsheet 3>java PattenC
A
B B
C C C
D D D D
E E E E E
F F F F F F
G G G G G G G
H H H H H H H H
I I I I I I I I
J J J J J J J J J
```

## Discussion

- Class.
- Variable.
- Single Array.
- 2D Array
- 3D Array
- Reverse in java.
- Star Pattern
- Number Pattern
- Character Pattern