

**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**

**Academic Year :2020/2021**

**Date: 2023.02.03**

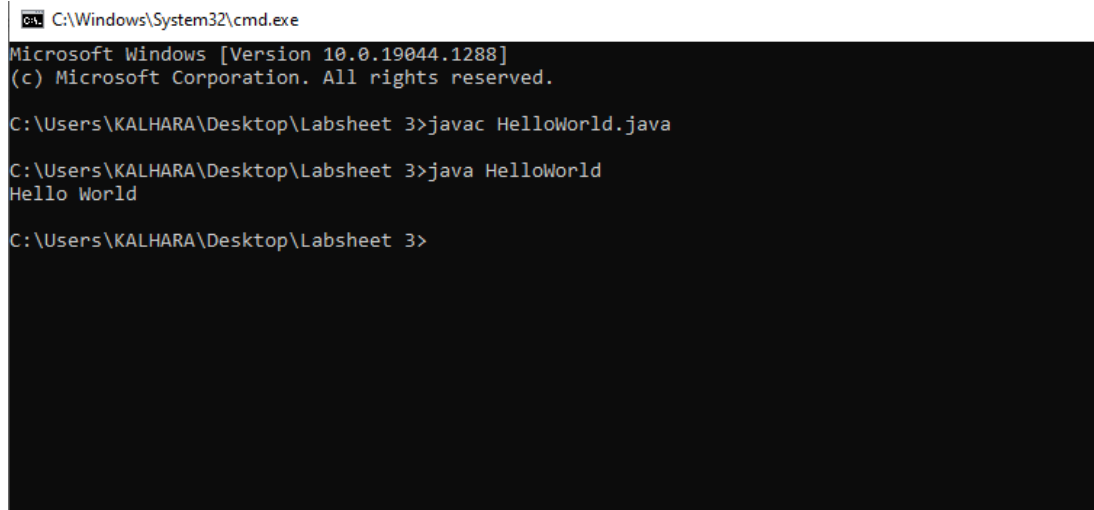
**Practical No : 03**

### 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 :



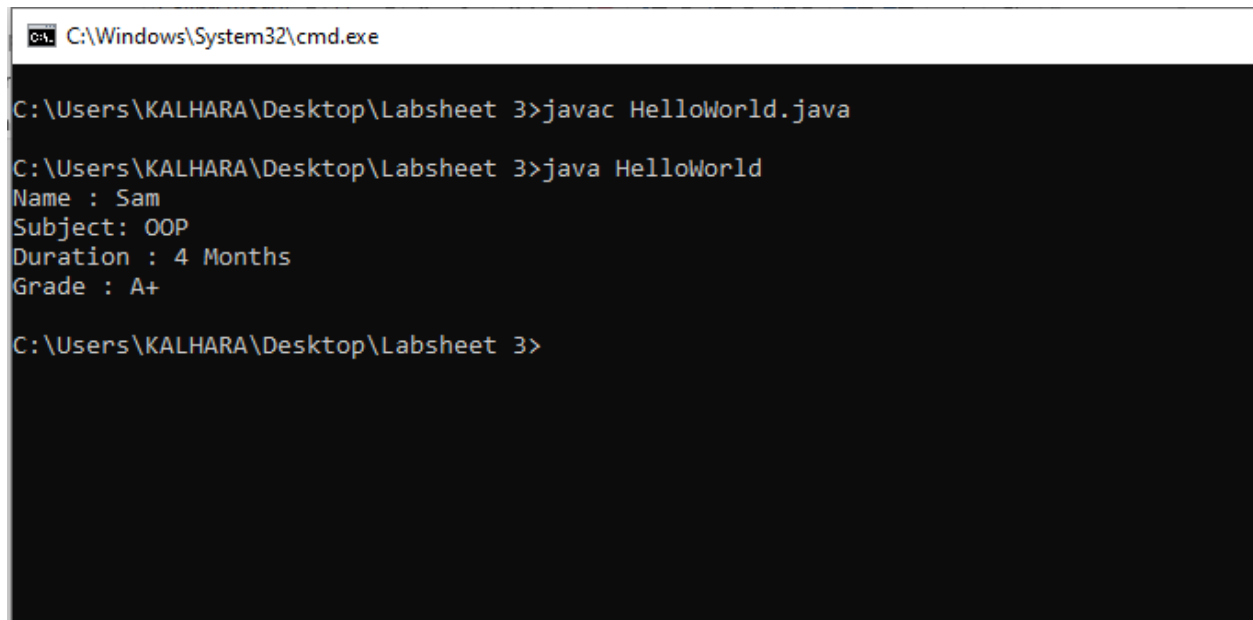
```
C:\Windows\System32\cmd.exe  
Microsoft Windows [Version 10.0.19044.1288]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\KALHARA\Desktop\Labsheet 3>javac HelloWorld.java  
  
C:\Users\KALHARA\Desktop\Labsheet 3>java HelloWorld  
Hello World  
  
C:\Users\KALHARA\Desktop\Labsheet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



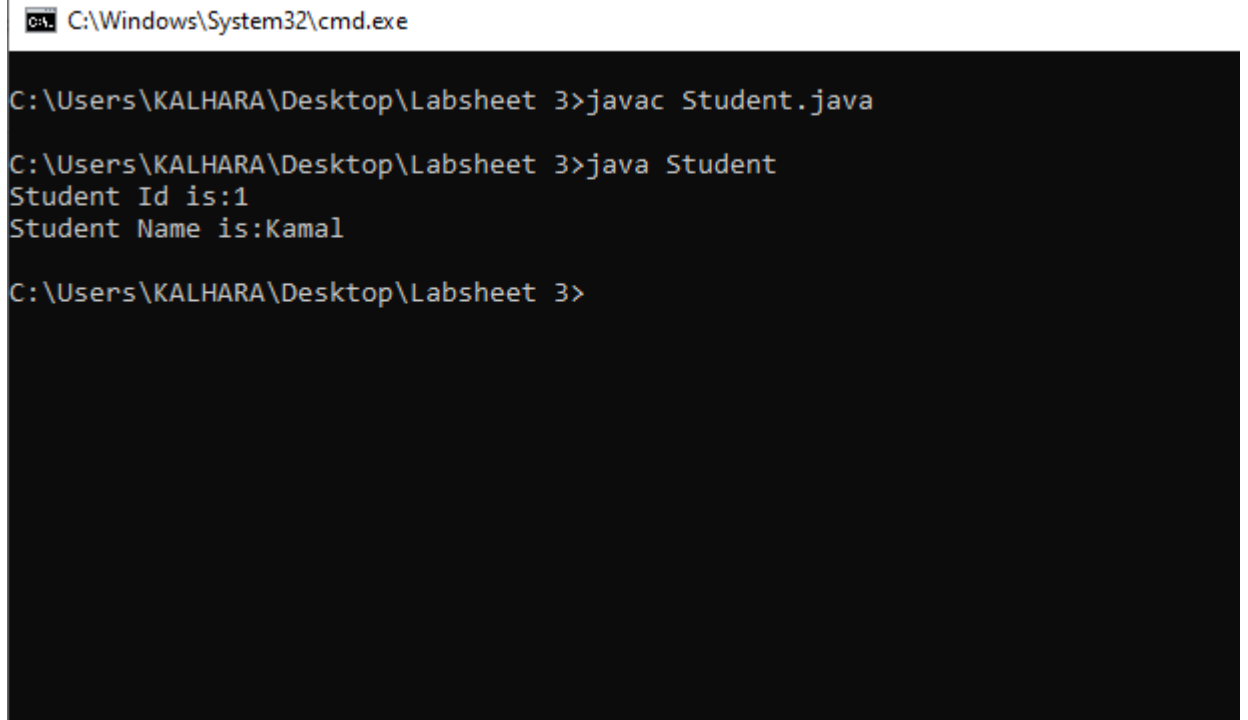
```
C:\Windows\System32\cmd.exe  
  
C:\Users\KALHARA\Desktop\Labsheet 3>javac HelloWorld.java  
  
C:\Users\KALHARA\Desktop\Labsheet 3>java HelloWorld  
Name : Sam  
Subject: OOP  
Duration : 4 Months  
Grade : A+  
  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

## 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

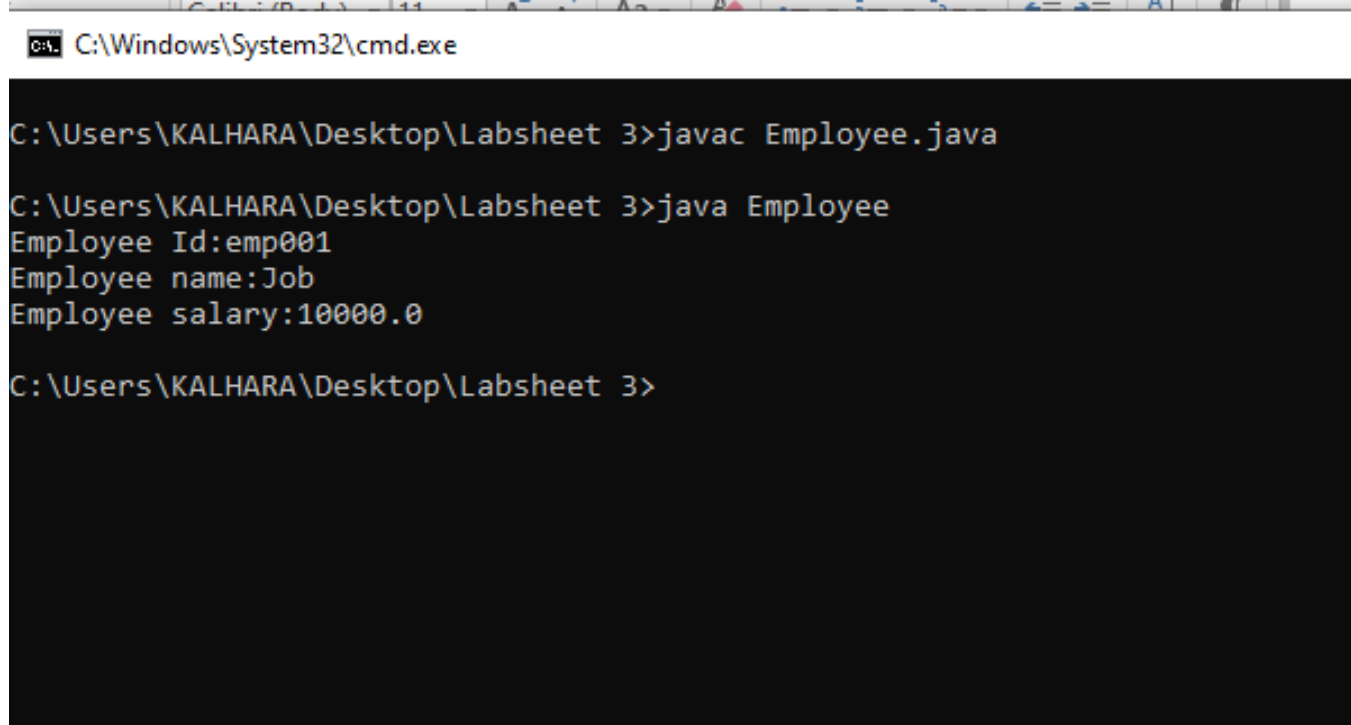
registration no:84
Name:kalhara
C:\Users\KALHARA\Desktop\Labsheet 3>
```

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 with the title bar "C:\Windows\System32\cmd.exe". The command prompt is open at the directory "C:\Users\KALHARA\Desktop\Labsheet 3". The user has entered the command "javac Employee.java" to compile the Java file. The output of the compilation is not shown. The user then enters the command "java Employee" to run the program. The output of the program is displayed on the next line: "Employee Id:emp001", "Employee name:Job", and "Employee salary:10000.0". The command prompt is now ready for the next command.

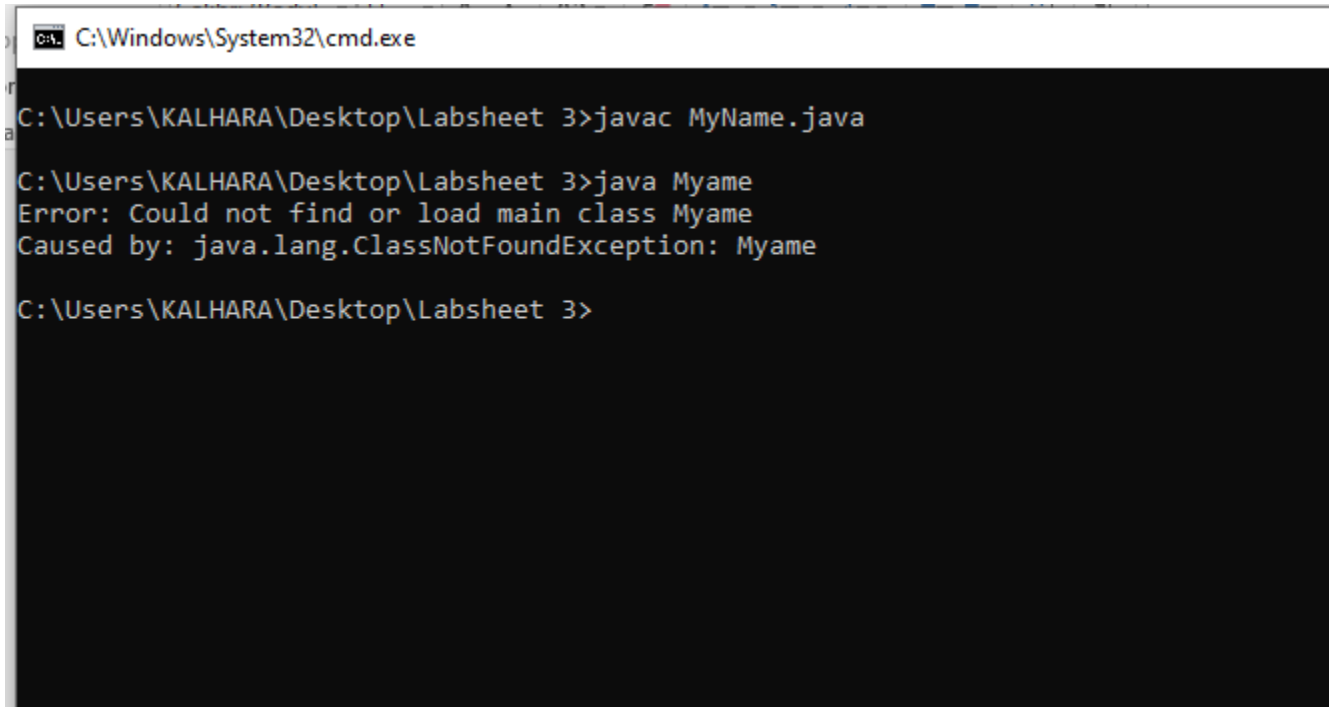
```
C:\Users\KALHARA\Desktop\Labsheet 3>javac Employee.java  
  
C:\Users\KALHARA\Desktop\Labsheet 3>java Employee  
Employee Id:emp001  
Employee name:Job  
Employee salary:10000.0  
  
C:\Users\KALHARA\Desktop\Labsheet 3>
```

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 "C:\Windows\System32\cmd.exe". The user is in the directory "C:\Users\KALHARA\Desktop\Labsheet 3". They first run the command "javac MyName.java", which compiles the file successfully. Then, they run "java Myame", which results in an error: "Error: Could not find or load main class Myame. Caused by: java.lang.ClassNotFoundException: Myame". The prompt then returns to "C:\Users\KALHARA\Desktop\Labsheet 3>".

```
C:\Windows\System32\cmd.exe  
C:\Users\KALHARA\Desktop\Labsheet 3>javac MyName.java  
C:\Users\KALHARA\Desktop\Labsheet 3>java Myame  
Error: Could not find or load main class Myame  
Caused by: java.lang.ClassNotFoundException: Myame  
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,
  - Create the variables length and width.
  - 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:

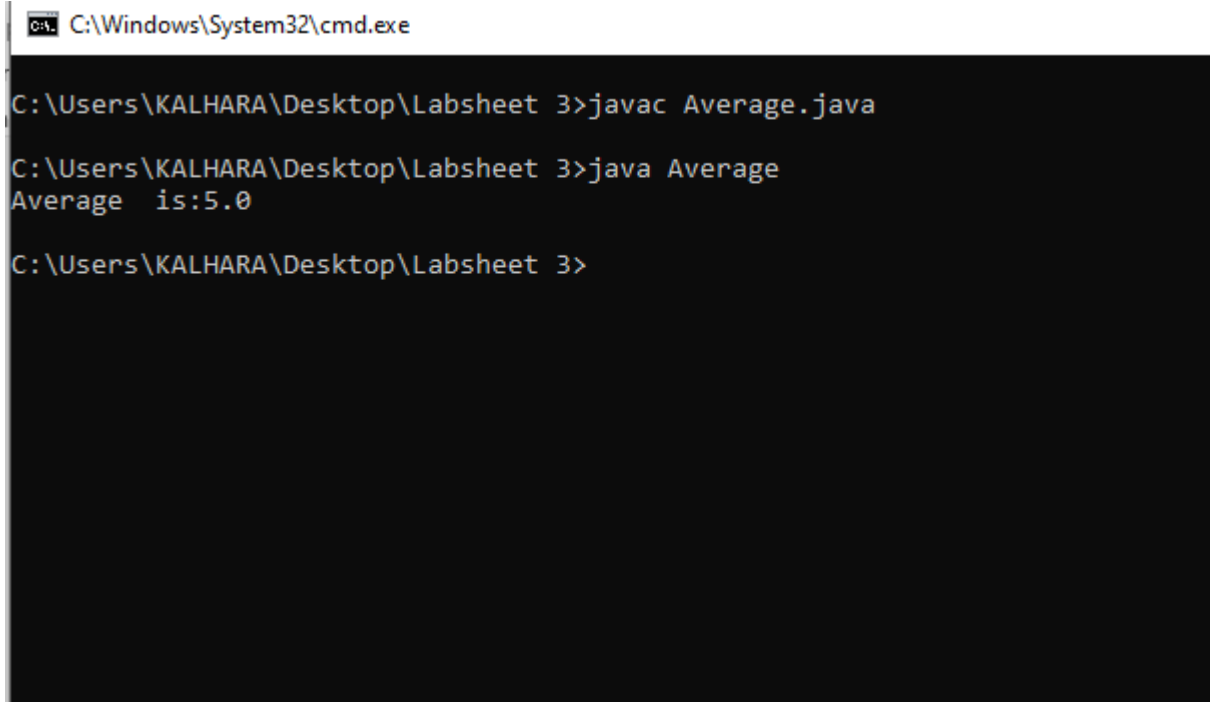


Exercise 06:

**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:



```
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:

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

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

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

      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * *
* * * * *

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

```
b. public class PattenB{
    public static void main(String[] args){
        int x,y,num=1,c=7;
        for(x=0;x<c;x++){
            for(y=0;y<=x;y++){
                System.out.print(num+" ");
                num++;
            }
            System.out.println();
        }
    }
}
```

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 I
J J J J J J J J J J

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

## Discussion

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