LAB 4

In this lab, we will write programs using the conditional statement if-then-else.

Q1) Write a Java program that will read an integer x and print whether x is Positive, Negative or Zero.

Create a project **Lab04**

Name your class **PosNeg**

Sample Run:

```
Please Enter X: 32 ↲
32 is Positive
```

Sample Run:

```
Please Enter X: -5 ↲
-5 is Negative
```

Sample Run:

```
Please Enter X: 0 ↲
You entered Zero.
```

Q2) Write a Java Program that will read an integer x print whether x is Odd or Even. Name your class **OddEven**.

Hint: An integer x is Even if (x % 2 == 0)

Sample Run 1:

```
Please Enter X: 8 ↲
8 is Even
```

Sample Run 2:

```
Please Enter X: 19 ↲
19 is Odd
```

Q3) Write a java program that will read a student score on the exam, and prints **PASS** if the score is 60 or above, **FAIL** otherwise.

Name your class **Score**

PS: Make sure the score is entered correctly. Must be integer between 0 and 100.

Sample Run:

```
Enter the score: 70 ↲
PASS
```

Sample Run:

```
Enter the score: 20 ↲
FAIL
```

Sample Run:

```
Enter the score: -30 ↲
Wrong input! Score must be between 0 and 100.
```

Q4) Write a Java Program that will read your car speed and determine the appropriate speed fine based on the following table:

Speed	**Fine**
Speed <= 100 km	**No Fine**
100 < Speed <=113	**300**
113 < Speed <=140	**500**
Above 140	**1000**

Note: Make sure that the speed entered correctly. i.e. is not less than zero and not more than 240.

Name your class **SpeedFine**

Sample Run:

```
Please Enter your Speed: 130 ↲
Your fine is 500 SR
```

Sample Run:

```
Please Enter your Speed: 2000 ↲
Speed must be between 0 and 240
```

Q5) Write a Java Program that will read two strings from the user. Then compare the two strings to see if they are equal. There are two types of comparison: **Case sensitive** and **Case insensitive**. The user must choose the type of comparison and then print whether they are equal or not. (Case sensitive means same small and capital letters)

Hint: To compare two String s1 and s2 use **s1.equals(s2)** or **s1.equalsIgnoreCase(s2)**. Do not use s1 == s2

Name your class **TwoStrings**

Sample Run 1:

```
Welcome to the String compare program
Please Enter first String : Hello ↲
Please Enter second String : Hello ↲
Choose your type of comparison:
1) Case Sensitive      2) Case Insensitive
Enter your choice> 1 ↲
The two string are equal.
```

Sample Run 2:

```
Welcome to the String compare program
Please Enter first String : Red ↲
Please Enter second String : red ↲
Choose your type of comparison:
1) Case Sensitive      2) Case Insensitive
Enter your choice> 1 ↲
The two string are not equal.
```

Sample Run 3:

```
Welcome to the String compare program
Please Enter first String : Red ↲
Please Enter second String : rED ↲
Choose your type of comparison:
1) Case Sensitive      2) Case Insensitive
Enter your choice> 2 ↲
The two string are equal.
```

Solutions:

Q1)

```
import java.util.Scanner;
public class PosNeg{
public static void main(String args[]) {
Scanner kb = new Scanner(System.in);
System.out.print("Please Enter X:");
int x = kb.nextInt();
if (x > 0) System.out.println(x+" is Positive");
else if (x == 0) System.out.println("You entered Zero");
     else System.out.println(x+" is Negative");
     }
}
```

Q4)

```
import java.util.Scanner;
public class SpeedFine{
public static void main(String args[]) {
Scanner kb = new Scanner(System.in);
System.out.print("Please Enter your speed: ");
int speed = kb.nextInt();
if (speed <0 || speed >240)
               System.out.println("Speed must be between 0 and 240");
else if (speed <= 100) System.out.println("No Fine");
     else if ((100 < speed) && (speed <= 113) )
          System.out.println("The Fine is 300");
          else if ((113 < speed) && (speed <= 140) )
               System.out.println("The Fine is 500");
               else


          // Student should complete solution
     }
}
```

Q5)

```
import java.util.Scanner;
public class Seconds {
     public static void main(String[] args) {
          Scanner kb = new Scanner(System.in);
          System.out.println("Welcome to the String compare program ");
          System.out.print("Please Enter first String : ");
          String s1 = kb.next();
          System.out.print("Please Enter second String : ");
          String s2 = kb.next();
          System.out.println("Choose your type of comparison:");
          System.out.println("1) Case Sensitive\t2) Case Insensitive ");
          System.out.print("Enter your choice : ");
          int choice = kb.nextInt();
          if (choice == 1) {
               if(s1.equals(s2)) System.out.println("Two strings are
equal.");
               else System.out.println("Two strings are not equal.");
          } else if (choice == 2) {
               if(s1.equalsIgnoreCase(s2)) System.out.println("Two
strings are equal.");
               else System.out.println("Two strings are not equal.");
          } else System.out.println("Wrong choice!");
     }
}
```