**Modern Programming Languages**

Assignment No. 4

**Rules**

1. Deadline: 07 November 2023
2. Only hand-written assignment is acceptable
3. Copy-paste not allowed
4. ChatGPT and other online tools are not allowed to finish the assignment

**Question No. 1**

Copy and Run the code and show the output in the document file to be submitted

classChkNum {

booleanisEven(int x) {

if ((x % 2) == 0) {

return true;

} else {

return false;

}

}

}

classParmDemo {

public static void main(String args[]) {

ChkNum e = new ChkNum();

if (e.isEven(10)) {

System.out.println("10 is even.");

}

if (e.isEven(9)) {

System.out.println("9 is even.");

}

if (e.isEven(8)) {

System.out.println("8 is even.");

}

}

}

**Question No. 2** In Java keyword **final** is used to prevent overriding and inheritance. Explain these two uses of **final** keyword in Java with programming examples

**Question No. 3** Design a Class named **PakistanMotorWay**. In this Class, you are required to manage the different types Vehicles passing on daily basis. You are also required to enter the different type of Vehicles and Tool Rate for each Vehicle. Also, your program should display a Menu for different Choices. As the user chooses a choice then your application should respond accordingly. The sample run and output of the program is show below. Implement this entire scenario using Java Classes. Inheritance, Interfaces (if required). Only neat and working code will give you marks. No marks will be given if code is not written clearly. You program should display the Menu repeatedly until he/she choose the option 5 or 6 and display the complete details as shown[**3 Marks]**

**Sample Run**

**Program Menu : Please Enter your Choice**

**0 : Car**

**1 : Bus**

**2 : Jeep**

**3 : Truck**

**4 : Long Vehicle**

**5 : Exit**

**6 : Report Display**

**Sample output**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Pakistan Motorway \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Islamabad Tool Plaza\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

S# Vehicle Type # of Entries Total Tool

1 Car 10 500

2 Bus 10 1000

3 Jeep 5 10000

4 Truck 15 10000

5 Long Vehicle 10 100

**Grand Total : 21600 (Rs.)**