2023

Assignment :01

OBJECTIVE-ORENTIED-PROGRAMMING

AHMER AQEEL (15960)

Question no 1:

```
import java.util.Scanner;

public class LeapYear {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter a year: ");
        int year = input.nextInt();

        boolean isLeapYear = false;
        if (year % 4 == 0) {
            if (year % 100 == 0) {
                if (year % 400 == 0) {
                    isLeapYear = true;
                }
            } else {
                isLeapYear = true;
            }
        }
        if (isLeapYear) {
System.out.println(year + " is a leap year.");
        } else {
            System.out.println(year + " is not a leap year.");
        }
    }
}
```

Question no 2:

```
import java.util.Scanner;

public class HexToDecimal {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a hexadecimal number: ");
        String hex = scanner.nextLine();

        int decimal = 0;
        String digits = "0123456789ABCDEF";
        hex = hex.toUpperCase();

        for (int i = 0; i < hex.length(); i++) {
            char c = hex.charAt(i);
            int d = digits.indexOf(c);
            decimal = 16 * decimal + d;
        }
        System.out.println("Decimal equivalent is: " + decimal);

        scanner.close();
    }
}
```

Question no 3:

```
import java.util.Scanner;

public class MultiplicationTable {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = input.nextInt();

        for (int i = 1; i <= 10; i++) {
            System.out.println(number + " x " + i + " = " + (number * i));
        }
    }
}
```

Question no 4:

```
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        int numOfStudents = 0;
        System.out.print("Enter the number of students: ");
        numOfStudents = scanner.nextInt();

        String[] names = new String[numOfStudents];
        int[] ids = new int[numOfStudents];
        double[] marks = new double[numOfStudents];

        for (int i = 0; i < numOfStudents; i++) {
            System.out.print("Enter the name of student " + (i + 1) + ": ");
            names[i] = scanner.next();

            System.out.print("Enter the id of student " + (i + 1) + ": ");
            ids[i] = scanner.nextInt();

            System.out.print("Enter the marks of student " + (i + 1) + ": ");
            marks[i] = scanner.nextDouble();
        }
```

```
        double highestScore = 0;
        String studentName = "";
        int studentId = 0;

        for (int i = 0; i < numOfStudents; i++) {
            if (marks[i] > highestScore) {
                highestScore = marks[i];
                studentName = names[i];
                studentId = ids[i];
            }
        }

        System.out.println("The student with the highest score is:");
        System.out.println("Name: " + studentName);
        System.out.println("ID: " + studentId);
        System.out.println("Score: " + highestScore);
    }
}
```