ASSINGMENT-3

1. Write program to find whether a given year is a leap year or not.

```
public class Main {

  public static void main(String[] args) {

    // year to be checked
    int year = 1900;
    boolean leap = false;

    // if the year is divided by 4
    if (year % 4 == 0) {

      // if the year is century
      if (year % 100 == 0) {

        // if year is divided by 400
        // then it is a leap year
        if (year % 400 == 0)
          leap = true;
        else
          leap = false;
      }

      // if the year is not century
      else
        leap = true;
    }

    else
      leap = false;

    if (leap)
      System.out.println(year + " is a leap year.");
    else
      System.out.println(year + " is not a leap year.");
  }
}
```

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```
Enter the year:

       1900

No!,it’s not a leap year

Enter the year:

     1996

Yeah!,it’s a leap year.
```

2.program to read roll no, name and marks of three subjects and calculate the total, percentage and division

Test Data :

Input the Roll Number of the student :784

Input the Name of the Student :James

Input the marks of Physics, Chemistry and Computer Application : 70 80 90

Expected Output :

Roll No : 784

Name of Student : James

Marks in Physics : 70

Marks in Chemistry : 80

Marks in Computer Application : 90

Total Marks = 240

Percentage = 80.00

Division = First

```
import java.util.Scanner;

public class StudentMarks {

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

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```
Scanner sc = new Scanner(System.in);
// Read in the roll number, name, and marks of three subjects
System.out.print("Enter the roll number: ");
int rollNo = sc.nextInt();
sc.nextLine(); // consume the newline character
System.out.print("Enter the name: ");
String name = sc.nextLine();
System.out.print("Enter the marks in three subjects: ");
int marks1 = sc.nextInt();
int marks2 = sc.nextInt();
int marks3 = sc.nextInt();
// Calculate the total, percentage, and division
int total = marks1 + marks2 + marks3;
double percentage = total / 3.0;
String division = "";
if (percentage >= 60) {
division = "First";
} else if (percentage >= 50) {
division = "Second";
} else if (percentage >= 40) {
division = "Third";
} else {
division = "First";
}
```

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```
// Print the results
System.out.println("Total: " + total);
System.out.println("Percentage: " + percentage + "%");
System.out.println("Division: " + division);
}
}
```

Output:

Enter the roll number: 784

Enter the name: james

Enter the marks in three subjects:

70

80

90

Total: 240

Percentage: 80.0%

Division: First

3.program to read temperature in centigrade and display a suitable message

```
import java.util.*;
class Temperature
{
public static void main(String args[])
{
```

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```
Scanner sc = new Scanner(System.in);

System.out.print("Enter the temperature: ");

int temp=sc.nextInt();

String s="";

if(temp<0)

s="Freezing ";

else if(temp>=21&&temp<=30)

s="Normal ";

else if(temp>=31&&temp<=40)

s="Hot ";

else if(temp>40)

s="Very hot ";

System.out.println(s+ "weather.");

}

}
```

4. program to check whether a character is an alphabet, digit or special character.

```
public class CharacterIsNumberOrDigitTest {
   public static void main(String[] args) {
      String str = "Tutorials123";
      for(int i=0; i < str.length(); i++) {
         Boolean flag = Character.isDigit(str.charAt(i));
         if(flag) {
            System.out.println("'"+ str.charAt(i)+"' is a number");
         }
         else {
            System.out.println("'"+ str.charAt(i)+"' is a letter");
         }
```

```
        }
    }
}
```

Output

```
'T' is a letter
'u' is a letter
't' is a letter
'o' is a letter
'r' is a letter
'i' is a letter
'a' is a letter
'l' is a letter
's' is a letter
'1' is a number
'2' is a number
'3' is a number
```

5. Write a program in to accept a grade and declare the equivalent description

Grade	**Description**
E	Excellent
V	Very Good
G	Good
A	Average
F	Fail

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Test Data :
Input the grade :A
Expected Output :
You have chosen : Average

```
import java.util.*;
public class GFG {
    public static void main(String[] args{
        System.out.println(
            "Enter Grade varying from S,A,B,C,D");
        String grade = "A";
        if (grade == "E") {
            System.out.println("Student has scored Excellent”);
}
        else if (grade == "V") {
            System.out.printl("Student has scored Very gud");
}
        else if (grade == "B") {
            System.out.println(
                "Student has scored between 70 to 80");
}
       else if (grade == "g") {
            System.out.printl("Student has scored Good");
}

        else if (grade == "A") {
            System.out.println("Student has scored Average");
        }
```

```
        Else {
           System.out.prinln("The grade you entered is not valid!");
        }
    }
}
```

Output:

```
Student has scored:average
```

6. Write a program to read any day number in integer and display day name in the word.

```
import java.util.Scanner;
public class DisplayWord {
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
System.out.println("Enter the number from 1 to 7: ");
int day_num=sc.nextInt();
 if(day_num==1) {
 System.out.println("Sunday");
}
else if(day_num==2)
{
System.out.println("Monday");
}
else if(day_num==3)
 {
System.out.println("Tuesday");
}
else if(day_num==4)
```

```
{
{
{
 System.out.println("Wednesday");
}
else if(day_num==5)
{
System.out.println("Thursday");
}
else if(day_num==6)
{
System.out.println("Friday");
}
else if(day_num==7)
{
System.out.println("Saturday");
 }
else
{
System.out.println("Alowed numbers from 1 to 7 only");
}
```

7. Read integer value and display the number of days for this month.

```
import java.util.Scanner;

public class DaysinMonth2 {
      pprivate static Scanner sc;
      public static void main(String[] args)
      {
            int month;
```

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```
            sc = new Scanner(System.in);

            System.out.print(" Please Enter Month Number from 1 to12
(1 = Jan, and 12 = Dec) : ");
            month = sc.nextInt();

            switch(month)
            {
                 case 1:
                case 3:
                case 5:
                 case:7
       case 8:
             case 10:
                 case 12:
                      System.out.println("\n 31 Days in this Month");
                      break;

                 case 4:
                 case 6:
                 case 9:
                 case 11:
                      System.out.println("\n 30 Days in this Month");
                      break;

                 case 2:
                      System.out.println("\n Either 28 or 29 Days in
this Month");
                      break;

                 default:
                      System.out.println("\n Please enter Valid
Number between 1 to 12");
              }
      }
}
```

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```
Please Enter Month Number from 1 to 12 (1 = Jan, and 12 = Dec) : 4

30 Days in this Month
```