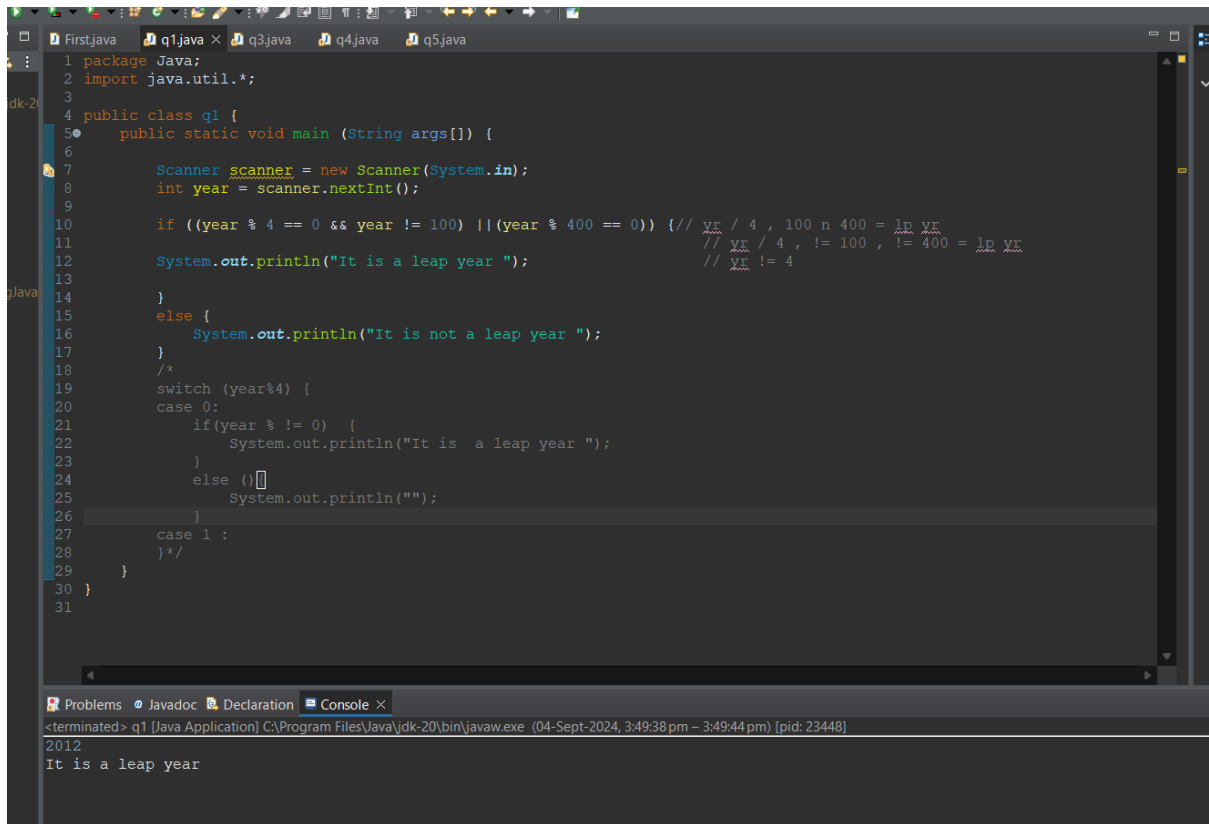


ASSIGNMENT 2

Name : Mayur Pawar_KH

1) Write a program that checks if a given year is a leap year or not using both if-else and switch-case.



```
1 package Java;
2 import java.util.*;
3
4 public class q1 {
5     public static void main (String args[]) {
6
7         Scanner scanner = new Scanner(System.in);
8         int year = scanner.nextInt();
9
10        if ((year % 4 == 0 && year != 100) || (year % 400 == 0)) { // yr / 4 , 100 n 400 = 1n yr
11            // yr / 4 , != 100 , != 400 = 1n yr
12            System.out.println("It is a leap year "); // yr != 4
13        }
14        else {
15            System.out.println("It is not a leap year ");
16        }
17        /*
18        switch (year%4) {
19            case 0:
20                if(year % != 0) {
21                    System.out.println("It is a leap year ");
22                }
23                else () {
24                    System.out.println("");
25                }
26            case 1 :
27                }*/
28        }
29    }
30 }
31
```

Problems Javadoc Declaration Console

<terminated> q1 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (04-Sept-2024, 3:49:38 pm - 3:49:44 pm) [pid: 23448]

2012

It is a leap year

2) Implement a program that calculates the Body Mass Index (BMI) based on height and weight input using if-else to classify the BMI into categories (underweight, normal weight, overweight, etc).

```
package Java;
import java.util.*;

class q2 {
    public static void main(String args[]) {
        System.out.println("Enter Height: ");
        Scanner sc = new Scanner(System.in);
        int height = sc.nextInt();
        System.out.println("Enter Weight: ");
        int weight = sc.nextInt();
        float height1 = height / 100.0f;
        float BMI = weight / (height1 * height1);
        if ( BMI <= 18.5f ) {
            System.out.println("Underweight.");
        }
        else if ( 18.6f <= BMI && BMI <= 24.9f ) {
            System.out.println("Normal Weight.");
        }
        else {
            System.out.println("Overweight.");
        }
    }
}
```

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3) Write a program that checks if a person is eligible to vote based on their age.

```
package Java;
import java.util.*;
public class q3 {
    public static void main (String a[]) {

        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();

        if (n >= 18 ) {
            System.out.println("Eligible for voting ");
        }
        else {
            System.out.println("Not Eligible for voting ");
        }
    }
}
```

4) Write a program that takes a month (1-12) and prints the corresponding season (Winter, Spring, Summer, Autumn) using a switch case

```
package Java;

import java.util.Scanner;
public class q4 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a month (1-12): ");
        int month = scanner.nextInt();
        String season;
        switch (month)
        {
            case 12:
            case 1:
            case 2:
                season = "Winter";
                break;
            case 3:
            case 4:
            case 5:
                season = "Spring";
                break;
            case 6:
            case 7:
            case 8:
                season = "Summer";
                break;
            case 9:
            case 10:
            case 11:
                season = "Autumn";
                break;
            default:
                season = "Month does not exist ";
        }
    }
}
```

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```
        System.out.println("The season is: " + season);  
    }  
}
```

5) Write a program that allows the user to select a shape (Circle, Square, Rectangle, Triangle) and then calculates the area based on user-provided dimensions using a switch case.

```
package Java;  
import java.util.*;  
public class q5 {  
    public static void main (String a[]) {  
        System.out.println("Type 1 To Calculate Circle ");  
        System.out.println("Type 2 To Calculate Rectangle ");  
        System.out.println("Type 3 To Calculate Square");  
        System.out.println("Type 4 To Calculate Triangle ");  
  
        Scanner sc = new Scanner(System.in);  
        int shape = sc.nextInt();  
        switch (shape) {  
            case 1 :  
                System.out.println("Enter the radius ");  
                int b1 = sc.nextInt();  
                double area = (3.14 * b1 * b1);  
                System.out.println("Area is " + area);  
                break;  
            case 2 :  
                System.out.println("Enter the length ");  
                System.out.println("Enter the Width ");  
                int c1 = sc.nextInt();  
                int c2 = sc.nextInt();  
                double are = (c1 * c2);  
                System.out.println("Area Of rectangle is " + are);  
                break;  
            case 3 :  
                System.out.println("Enter the Length ");  
                int d1 = sc.nextInt();  
                double ar = (d1 * d1);  
                System.out.println("Area Of Square is " + ar);  
                break;  
            case 4 :  
                System.out.println("Enter the base ");  
                System.out.println("Enter the Height");  
                int e1 = sc.nextInt();  
                int e2 = sc.nextInt();  
                double g = ((e1 * e2) / 2);  
                System.out.println("Area of Triangle is " + g);  
                break;  
        }  
    }  
}
```

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```
}  
}
```