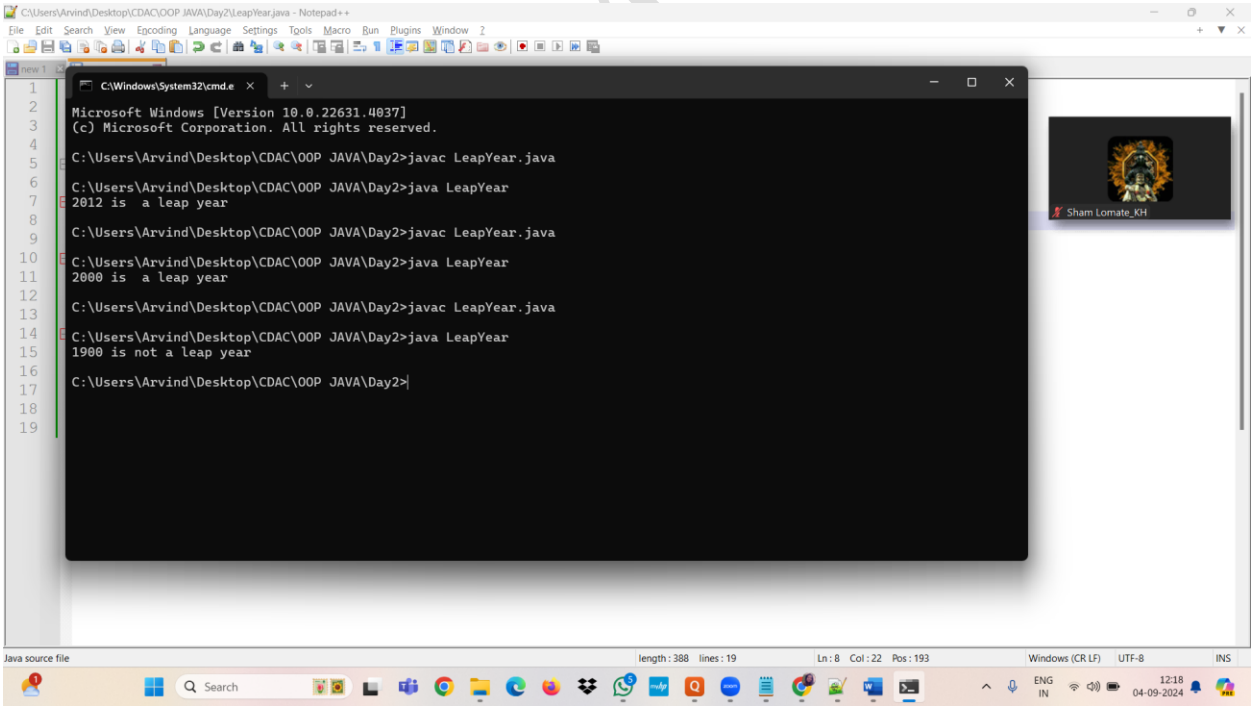
CDAC Mumbai PG-DAC AUGUST 24
Assignment No- 2

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

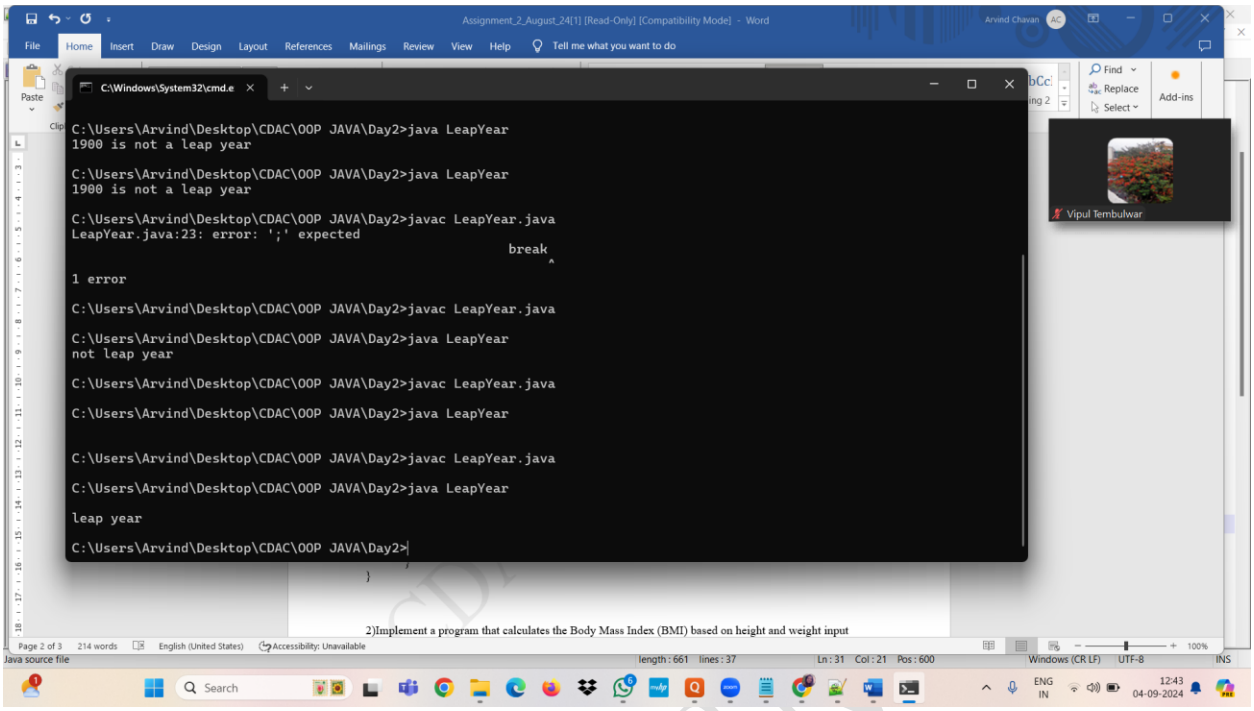
Code:
IF-ELSE

```
class LeapYear
{
	public static void main(String[] args)
	{
		int year = 1900;
		if(year%4==0 && year%400==0 || year%100 !=0)
		{
			System.out.println(year + " is  a leap year");
		}
		else
		{
			System.out.println(year + " is not a leap year");
		}

	}
}
```



SWITCH case
Code:

```
class LeapYear
{
	public static void main(String[] args)
	{
		int year = 2012;
		switch(year%4)
		{
			case 0:
			 switch(year%400)
			 {
					case 0:
						System.out.println("leap year");
					break;

					default:
						switch(year%100)
						{
							case 0:
							System.out.println("not leap year");
							break;

							default:
							System.out.println("");
						}
			 }
			System.out.println("leap year");
			break;
			default:
			 System.out.println("not leap year");

		}

	}
}
```

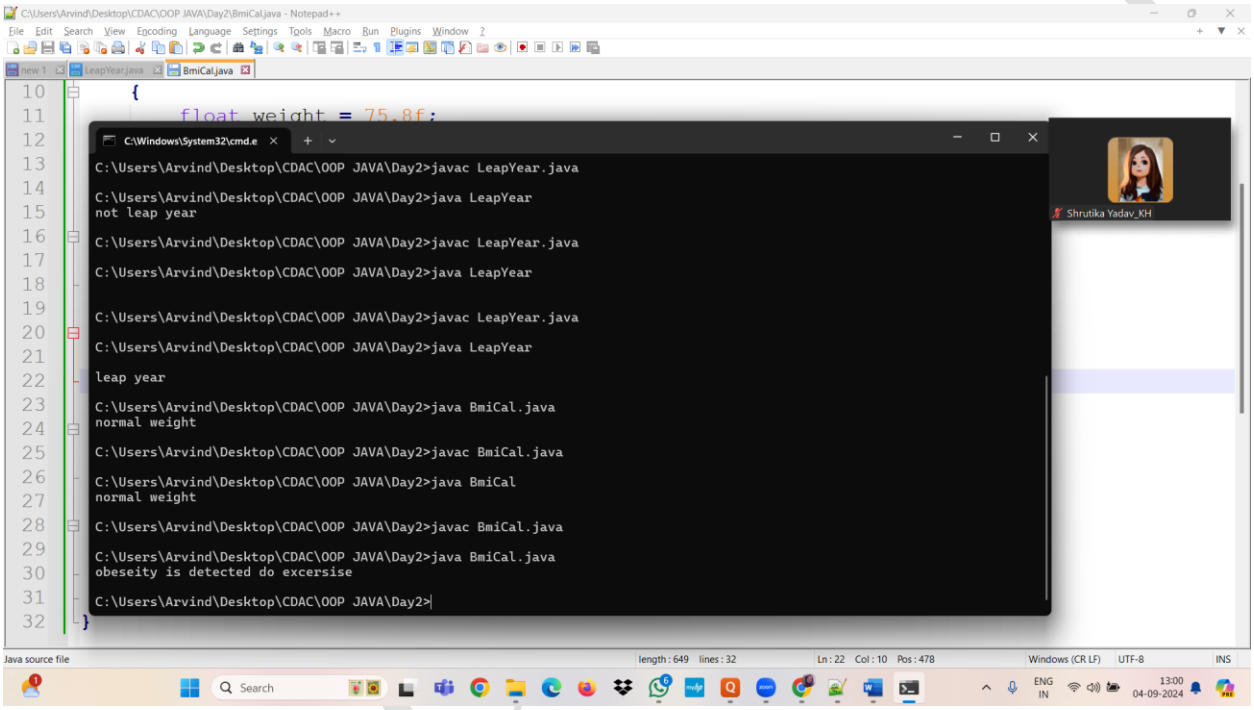


2)Implement a program that calculates the Body Mass Index (BMI) based on height and weight input using if-else to classify the BMI int categories (underweight, normal weight, overweight,etc).

Code:

```
// how to calculateBMI
// wieght/ height^2 = BMi
//16.0 - 18.5 underweight
//18.5 - 24.9 normal
//25.0 - 29.9- overweight

class BmiCal
{
	public static void main(String[] args)
	{
		float weight = 75.8f;
		float height = 1.59f;
		float heightsq = height * height;
		float bmi = weight/heightsq;
		if(bmi>=16.0f && bmi<=18.0f)
		{
			System.out.println("underweight");
		}
		else if(bmi>=18.5f && bmi<=24.9f)
		{
			System.out.println("normal weight");
		}
		else if(bmi>=25.0f && bmi<=29.9f)
```

```
        {
                System.out.println("over weight");
        }
        else
        {
                System.out.println("obeseity is detected do excersise");
        }
    }
}
```



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

Code:

```
class VoteEli
{
        public static void main(String[] args)
        {
                int age = 17;
                if(age>=18){
                        System.out.println("Mubarakho you can vote");
                }
                else{
                System.out.println("na baba abhi umar nahi hai");
                }
        }
}
```

```
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>javac VoteEli.java

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java VoteEli
na baba abhi umar nahi hai

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>
```

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

```
class MonSesn
{
	public static void main(String[] args)
	{
		int month = 12;
		//int season;
		switch(month)
		{
			case 3:
			case 4:
			case 5:
			System.out.println("Summer is here!!");
			break;

			case 6:
			case 7:
			case 8:
			case 9:
			System.out.println("Autumn is here!!");
			break;

			case 10:
			case 11:
			case 12:
			System.out.println("Winter is here");
			break;

			case 1:
			case 2:
			System.out.println("Spring is here");
```

```
                        break;

                        default:
                        System.out.println("Please enter valid month number");

                }
        }
}
```

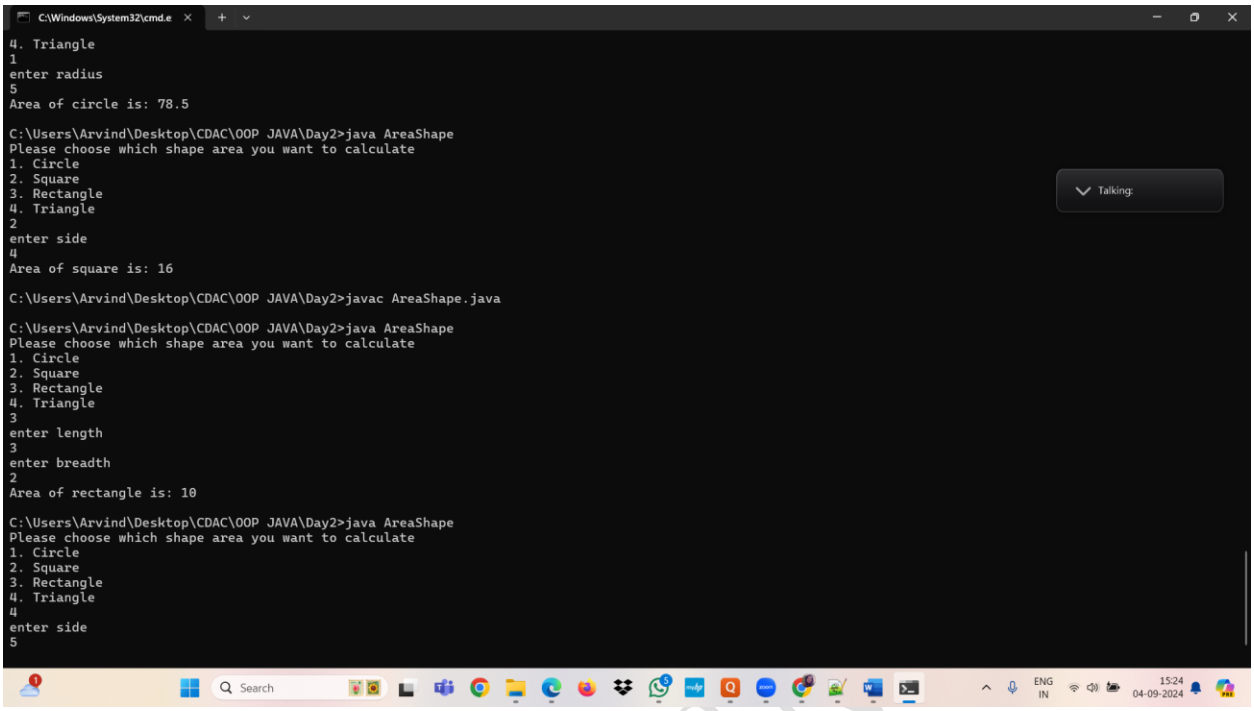
```
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>javac MonSesn.java

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java MonSesn
Spring is here

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>javac MonSesn.java

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java MonSesn
Winter is here

C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>
```

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.

Code:

```
import java.util.Scanner;
class AreaShape
{
        public static void main(String[] args)
        {
                System.out.println("Please choose which shape area you want to calculate");
                System.out.println("1. Circle");
                System.out.println("2. Square");
                System.out.println("3. Rectangle");
                System.out.println("4. Triangle");
                Scanner sc = new Scanner(System.in);
                int shapenum = sc.nextInt();
                int length;
                int breadth;
                int side;
                int rad;
                //System.out.println(shape);
                switch(shapenum)
                {
                        case 3:
                        System.out.println("enter length");
                        length = sc.nextInt();
                        System.out.println("enter breadth");
                        breadth = sc.nextInt();
                        int recarea = length+length+breadth+breadth ;
```

```
                System.out.println("Area of rectangle is: " + recarea);
                break;

                case 1:
                System.out.println("enter radius");
                rad = sc.nextInt();
                int sq = rad*rad;
                float cira = 3.14f * sq;
                System.out.println("Area of circle is: " + cira);
                break;

                case 2:
                System.out.println("enter side");
                side = sc.nextInt();
                int sqa = side * side;
                System.out.println("Area of square is: " + sqa);
                break;

                case 4:
                System.out.println("enter side");
                side = sc.nextInt();
                int tra = 3 * side;
                System.out.println("Area of traingle is: " + tra);
                break;

                default:
                System.out.println("Enter number from choosen options");
            }
            sc.close();

        }
}
```


C:\Windows\System32\cmd.e
4. Triangle
1
enter radius
5
Area of circle is: 78.5
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java AreaShape
Please choose which shape area you want to calculate
1. Circle
2. Square
3. Rectangle
4. Triangle
2
enter side
4
Area of square is: 16
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>javac AreaShape.java
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java AreaShape
Please choose which shape area you want to calculate
1. Circle
2. Square
3. Rectangle
4. Triangle
3
enter length
3
enter breadth
2
Area of rectangle is: 10
C:\Users\Arvind\Desktop\CDAC\OOP JAVA\Day2>java AreaShape
Please choose which shape area you want to calculate
1. Circle
2. Square
3. Rectangle
4. Triangle
4
enter side
5
Talking:
Search
ENG
IN
15:24
04-09-2024