

Assignment 2

Q1) Write a program to check if a given number is positive, negative, or zero.

```
import java.util.*;
class Checknum{
    public static void main(String[] args) {
        System.out.println("Enter the Number : ");
        Scanner sc = new Scanner(System.in);
        double num = sc.nextInt();

        if (num>0) {
            System.out.println(num + " Is positive");
        }
        if (num<0) {
            System.out.println(num + " Is Negative");
        }

        else if(num==0){
            System.out.println(num + " Is zero ");
        }
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Checknum
```

```
Enter the Number :
```

```
5
```

```
5.0 Is positive
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Checknum
```

```
Enter the Number :
```

```
-8
```

```
-8.0 Is Negative
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q2) 2. Write a program to determine whether a given year is a leap year or not.

```
import java.util.*;
class LeapYear{
    public static void main(String[] args) {
        System.out.println("Enter the year");
        Scanner sc = new Scanner(System.in);
        int year = sc.nextInt();
        if (year%400==0 || year%4==0 || year%100 == 0) {
            System.out.println(year + " It is a leap Year");
        }
        else {
            System.out.println( " Not a Leap Year");
        }
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java LeapYear
Enter the year
5055
Not a Leap Year
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java LeapYear
Enter the year
2016
2016 It is a leap Year
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q3) Write a program to check if a given character is a vowel or a consonant.

```
import java.util.*;
class Vowels{
    public static void main(String[] args) {
        System.out.println("Enter the Character To check whether it vowel or consonant.: ");
        Scanner sc = new Scanner(System.in);
        char ch = sc.next().charAt(0);
        if(ch == 'a'||ch == 'e'||ch == 'i'||ch == 'o'||ch == 'u'||ch == 'A'||ch == 'E'||ch == 'I'||ch == 'O'||ch == 'U')
        {
            System.out.println("The Given Character " +ch+ " is a Vowel");
        }
        else{
            System.out.println("The Given Character " +ch+ " is Consonant");
        }
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Vowels
Enter the Character To check whether it vowel or consonant.:
l
The Given Character l is Consonant

D:\CDAC Hyderabad\JAVA\Assignment 02>java Vowels
Enter the Character To check whether it vowel or consonant.:
a
The Given Character a is a Vowel

D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q4) Write a program to find the largest of three numbers entered by the user.

```
import java.util.*;
class LargestNum{
    public static void main(String[] args)
    {
        System.out.println("Enter the Three Numbers to check which is greater");

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter 1st Number");
        int a = sc.nextInt();

        System.out.println("Enter 2nd Number");
        int b = sc.nextInt();

        System.out.println("Enter 3rd Number");
        int c = sc.nextInt();

        int grt = (a>b) ?((a>c)?a:c):((b>c)?b:c);

        System.out.println("The greatest number among three number is " + grt);
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java LargestNum
Enter the Three Numbers to check which is greater
Enter 1st Number
5
Enter 2nd Number
6
Enter 3rd Number
2
The greatest number among three number is 6
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q5) Write a program to check if a given number is even or odd.

```
import java.util.*;
class CheckEvenOdd{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the Number :- ");
        int num = sc.nextInt();

        if (num % 2 == 0) {
            System.out.println("The Number is Even");
        }
        else
            System.out.println("The Number is Odd");
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java CheckEvenOdd
Enter the Number :- 5
The Number is Odd
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java CheckEvenOdd
Enter the Number :- 4
The Number is Even
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q6) Days of the Week

Task: Write a program that takes an integer input (1-7) from the user and prints the corresponding day of the week. Use a switch statement to handle the conversion

```
import java.util.*;
class DayOfWeek{
    public static void main(String[] args) {
        System.out.println("Enter the Day");
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        switch(n)
        {

            case 1:
                System.out.println(n+" -> Sunday");
                break;
            case 2:
                System.out.println(n+" -> Monday");
                break;
            case 3:
                System.out.println(n+" -> Tuesday");
                break;
            case 4:
                System.out.println(n+" -> Wednesday");
                break;
            case 5:
                System.out.println(n+" -> Thursday");
                break;
            case 6:
                System.out.println(n+" -> Friday");
                break;
            case 7:
                System.out.println(n+" -> Saturday");
                break;
            default:
                System.out.println("Invalid Input");
                break;

        }
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java DayOfWeek  
Enter the Day  
5  
5 -> Thursday
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java DayOfWeek  
Enter the Day  
1  
1 -> Sunday
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```

Q7) Simple calculator using switch statement

The screenshot shows a Sublime Text window with multiple tabs open at the top: Checknum.java, LeapYear.java, Vowels.java, and Largest. The main editor area contains Java code for a simple calculator. The code uses a switch statement to perform different operations based on user input (1 for Addition, 2 for Subtraction, 3 for Multiplication, 4 for Division, and 5 for Exit). It also handles division by zero and invalid inputs.

```
1 import java.util.*;
2 class Calculator{
3     public static void main(String[] args){
4         int n;
5         double res;
6         do
7         {
8             System.out.println("Simple calculator ");
9
10            Scanner sc = new Scanner(System.in);
11            System.out.println("Enter the First Number");
12            Double a = sc.nextDouble();
13            System.out.println("Enter the Second Number");
14            Double b = sc.nextDouble();
15
16            System.out.println("Choose operation: ");
17            System.out.println("1. Addition");
18            System.out.println("2. Subtraction");
19            System.out.println("3. Multiplication");
20            System.out.println("4. Division");
21            System.out.println("5. Exit");
22            n = sc.nextInt();
23
24            switch(n)
25            {
26                case 1 :
27                    System.out.println("Addition");
28                    res = a + b;
29                    System.out.println("Result is "+ res);
30                    break;
31                case 2 :
32                    System.out.println("Subtract");
33                    res = a - b;
34                    System.out.println("Result is "+ res);
35                    break;
36                case 3 :
37                    System.out.println("Multiplication");
38                    res = a * b;
39                    System.out.println("Result is "+ res);
40                    break;
41                case 4 :
42                    System.out.println("Division");
43                    if(b==0){
44                        System.out.println("Invalid input");
45                    }
46                    else{
47                        res = a / b;
48                        System.out.println("Result is " + res);
49                        break;}
50                case 5 :System.out.println("Exit");
51                    break;
52                default :
53                    System.out.println("Invalid Input");
54            }
55        }
56        while(n != 5);
57    }
58 }
```

```
Simple Calculator
Enter the First Number
2
Enter the First Number
3
Choose operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit
1
Addition
Result is 5.0
Simple Calculator
Enter the First Number
55
Enter the First Number
66
Choose operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit
3
Multiplication
Result is 3630.0
Simple Calculator
Enter the First Number
```

Q8) Traffic light system (R, Y, G → Stop, Wait, Go) using switch statement.

The screenshot shows a Sublime Text window with multiple tabs open at the top: Checknum.java, LeapYear.java, Vowels.java, LargestNum.java, and CheckEvenOdd.java. The main tab contains the following Java code:

```
1 import java.util.Scanner;
2
3 class TrafficSignal {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6
7         System.out.print("Enter traffic light (R/Y/G): ");
8         char ch = sc.next().charAt(0);
9
10        switch (ch) {
11            case 'R':
12            case 'r':
13                System.out.println("Stop");
14                break;
15
16            case 'Y':
17            case 'y':
18                System.out.println("Wait");
19                break;
20
21            case 'G':
22            case 'g':
23                System.out.println("Go");
24                break;
25
26            default:
27                System.out.println("Please enter From R, Y, or G.");
28        }
29
30        sc.close();
31    }
32 }
```

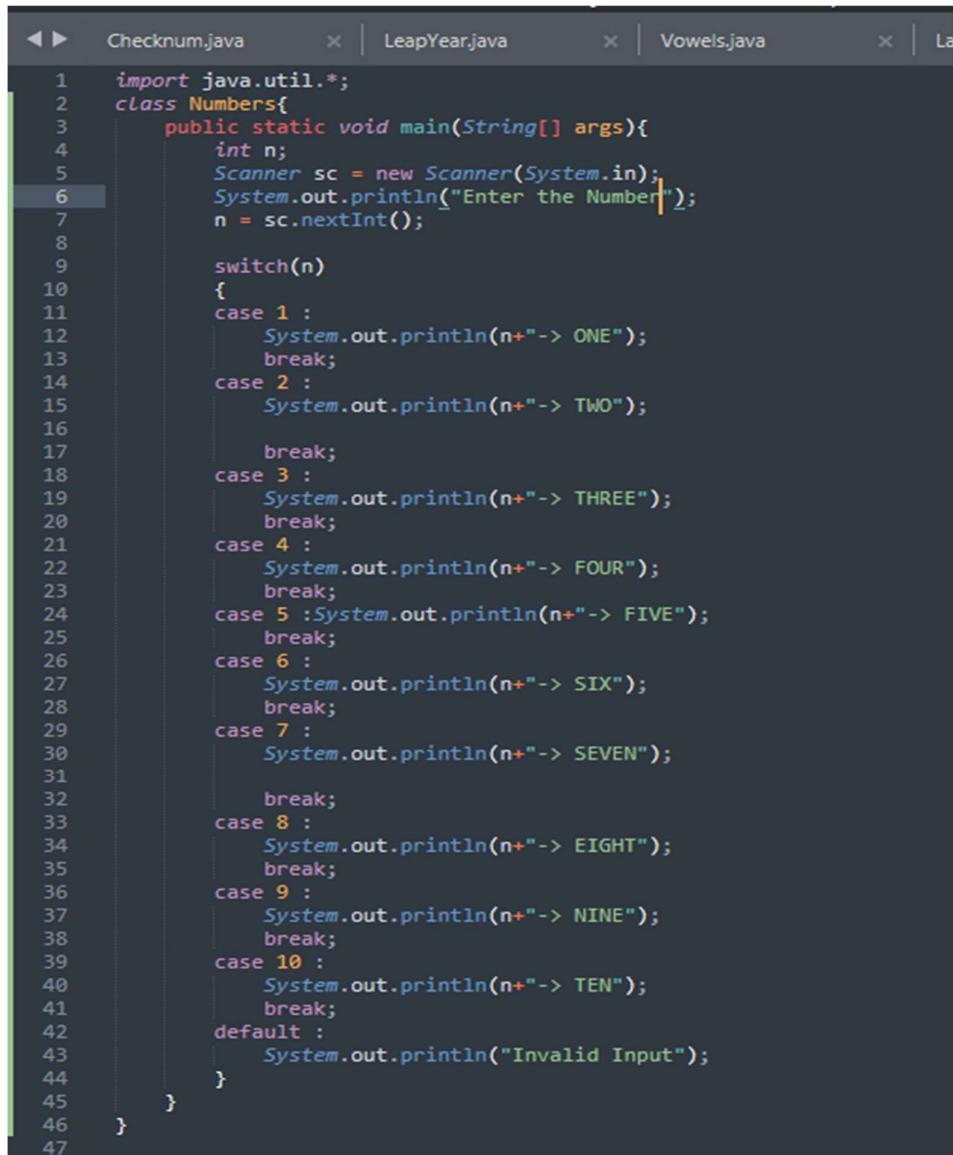
The terminal output shows three runs of the Java program:

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java TrafficSignal.java
Enter traffic light (R/Y/G): g
Go

D:\CDAC Hyderabad\JAVA\Assignment 02>java TrafficSignal.java
Enter traffic light (R/Y/G): r
Stop

D:\CDAC Hyderabad\JAVA\Assignment 02>java TrafficSignal.java
Enter traffic light (R/Y/G): y
Wait
```

Q9) Number to Word Conversion using switch statement.



```
1 import java.util.*;
2 class Numbers{
3     public static void main(String[] args){
4         int n;
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter the Number");
7         n = sc.nextInt();
8
9         switch(n)
10        {
11            case 1 :
12                System.out.println(n+"-> ONE");
13                break;
14            case 2 :
15                System.out.println(n+"-> TWO");
16                break;
17            case 3 :
18                System.out.println(n+"-> THREE");
19                break;
20            case 4 :
21                System.out.println(n+"-> FOUR");
22                break;
23            case 5 :System.out.println(n+"-> FIVE");
24                break;
25            case 6 :
26                System.out.println(n+"-> SIX");
27                break;
28            case 7 :
29                System.out.println(n+"-> SEVEN");
30                break;
31            case 8 :
32                System.out.println(n+"-> EIGHT");
33                break;
34            case 9 :
35                System.out.println(n+"-> NINE");
36                break;
37            case 10 :
38                System.out.println(n+"-> TEN");
39                break;
40            default :
41                System.out.println("Invalid Input");
42        }
43    }
44}
45}
46}
47}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Numbers
Enter the Number
```

```
7
7-> SEVEN
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Numbers
Enter the Number
```

```
9
9-> NINE
```

Q10) Print the number of days in a month (1–12) using switch statement

```
◀ ▶ Checknum.java      × | LeapYear.java      × | Vowels.java      ×
1 import java.util.*;
2 class Months{
3     public static void main(String[] args) {
4         System.out.println("Enter the Month");
5         Scanner sc = new Scanner(System.in);
6         int n = sc.nextInt();
7         switch(n)
8         {
9
10            case 1:
11                System.out.println(n+" -> January");
12                break;
13            case 2:
14                System.out.println(n+" -> February");
15                break;
16            case 3:
17                System.out.println(n+" -> March");
18                break;
19            case 4:
20                System.out.println(n+" -> April");
21                break;
22            case 5:
23                System.out.println(n+" -> May");
24                break;
25            case 6:
26                System.out.println(n+" -> June");
27                break;
28            case 7:
29                System.out.println(n+" -> July");
30                break;
31            case 8:
32                System.out.println(n+" -> August");
33                break;
34            case 9:
35                System.out.println(n+" -> September");
36                break;
37            case 10:
38                System.out.println(n+" -> Octumber");
39                break;
40            case 11:
41                System.out.println(n+" -> November");
42                break;
43            case 12:
44                System.out.println(n+" -> December");
45                break;
46            default:
47                System.out.println("Invalid Input");
48                break;
49
50        }
51    }
52 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Months
Enter the Month
```

```
5
5 -> May
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>java Months
Enter the Month
```

```
9
9 -> September
```

```
D:\CDAC Hyderabad\JAVA\Assignment 02>
```