

VIT– AP University

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School of Computer Science and Engineering **(CSE1004: Problem Solving using JAVA)** **Non-Evaluative Programs- Lab 2**

- 1. Write a Java program to check whether the given number is even or not. Take the value of variables as int.**

Sol.: The solution for the above problem is given below:

```
1 /*
2 Date: 27.11.2020
3 Description: Write a Java program to check whether the given number is odd or even.
4 */
5 import java.util.*;
6 public class Main
7 { // Start of body of Main class.
8     public static void main (String [] args)
9     { // Start of body of main method.
10         Scanner sc = new Scanner (System.in); // Creates an object of an Scanner
11         class.
12         int num = sc.nextInt(); // Asks for integer value from the user. Here,
13         nextInt() is a method in Scanner class.
14         if (num % 2 == 0)
15         { // Start of body of if statement.
16             System.out.println("Number is even");
17         } // End of body of if statement.
18         else
19         { // Start of body of else statement.
20             System.out.println("Number is odd");
21         } // End of body of else statement.
22     } // End of body of main method.
23 } // End of body of Main class.
```

Test Cases:

- Input:** 20
Expected Output: Number is even
 - Input:** 31
Expected Output: Number is odd
-

2. Write a Java program to find a largest number among the three numbers. Take the value of variables as int.

Sol.: The solution for the above problem is given below:

```
1/*
2Date: 27.11.2020
3Description: Write a Java program to find a largest number among the three numbers.
4*/
5import java.util.*;
6public class Main
7{ // Start of body of Main class.
8    public static void main (String [] args)
9    { // Start of body of main method.
10        Scanner sc = new Scanner (System.in); // Creates an object of an Scanner class.
11// Line 14-16 asks for integer value from the user. Here, nextInt() is a method in Scanner class.
12        int num1 = sc.nextInt();
13        int num2 = sc.nextInt();
14        int num3 = sc.nextInt();
15        if (num1 >= num2 && num1 >= num3)
16        { // Start of body of if statement.
17            System.out.println("Largest number is:" + num1);
18        } // End of body of if statement.
19        else if (num2 >= num1 && num2 >= num3)
20        { // Start of body of else if statement.
21            System.out.println("Largest number is:" + num2);
22        } // End of body of else if statement.
23        else
24        { // Start of body of else statement.
25            System.out.println("Largest number is:" + num3);
26        } // End of body of else statement.
27    } // End of body of main method.
28} // End of body of Main class.
```

Test Cases:

- **Input:** 12
25
67

Expected Output: 67

- **Input:** 31
45
63

Expected Output: 63

3. Write a Java program to check whether the given year is a leap year or not. Take the value of variables as int.

Sol. The solution for the above problem is given below:

```
1 /*
2 Date: 27.11.2020
3 Description: Write a Java program to check whether the given year is a leap year or not.
4 */
5 import java.util.*;
6 public class Main
7 { // Start of body of Main class.
8     public static void main (String [] args)
9     { // Start of body of main method.
10         Scanner sc = new Scanner (System.in); // Creates an object of an Scanner class.
11 // Line 14-16 asks for integer value from the user. Here, nextInt() is a method in Scanner class.
12         int year = sc.nextInt();
13
14         if (((year % 4 == 0) && (year % 100 != 0)) || (year % 400 == 0))
15         {
16             System.out.println(year + " is a leap year");
17         }
18         else
19         {
20             System.out.println(year + " is not a leap year");
21         }
22     }
23 }
```

Test Cases:

- **Input:** 2000
Expected Output: 2000 is a leap year
 - **Input:** 1999
Expected Output: 1999 is not a leap year
-

4. Write a Java program to make a calculator using switch case in Java. Take the value of variables as double.

Sol. The solution for the above problem is given below:

```
1 /*Date: 27.11.2020
2 Description: Write a Java program to make a calculator using switch case in Java. */
3 import java.util.*;
4 public class Main{
5     public static void main (String [] args){ // Start of body of main method.
6         Scanner sc = new Scanner (System.in); // Creates an object of an Scanner class.
7 // Line 14-16 asks for double value from user. Here, nextDouble() is a method in Scanner class.
8         double num1 = sc.nextDouble();
9         double num2 = sc.nextDouble();
10        char operation = sc.next().charAt(0); // charAt() method returns the character at the specified index in a string.
11        double result = 0.0;
12        switch (operation){
13            case '+':
14                result = num1 + num2;
15                break;
16            case '-':
17                result = num1 - num2;
18                break;
19            case '*':
20                result = num1 * num2;
21                break;
22            case '/':
23                result = num1 / num2;
24                break;
25            default:
26                System.out.println("Wrong Operator");
27                return;
28        }
29        System.out.println(num1 + " " + operation + " " + num2 + " = " + result);
30    }
31 }
```

Test Cases:

- **Input:** 2.5
3.0
+
Expected Output: 5.5
 - **Input:** 6.0
3.0
/
Expected Output: 2.0
-