CS 170 - Lab 07
Branching & Decisions

Introduction
The purpose of this lab is to introduce you the flow of control if-statements. You can use multiple and nested if-statements in your exercises.

Notes
- For all programs the header from the template should be used.
- Attach a Word file including the “Pseudocode” of the algorithm and screen shots for running the programs.
- Add reasonable comments through all the program.
- All lab and homework classes should be grouped in one project.
- Make sure to follow the naming convention for the project name.

I. If / Else Statements
- If you did not do that already, create a project for this week’s assignments following the naming convention that you used in the previous weeks.
- Create a class named "DivideTwo".
- Replace the code in the editor with the template contents, adding the following code below in the main() method:

```java
import java.util.*;
public class DivideTwo
{
    public static void main(String[] args)
    {
        Scanner keyboard = new Scanner(System.in);
        int numerator;
        int denominator;

        System.out.println("This program divides two numbers.");
        System.out.println("Enter the numerator: ");
        numerator = keyboard.nextInt();
        System.out.println("Enter the denominator: ");
        denominator = keyboard.nextInt();

        System.out.println((double) numerator/denominator);
    }
}
```

- Compile and run the program and observe the output.
- The program does the following:
  - Prompts the user for two integers that represent the numerator and the denominator of a fraction.
  - The Scanner object named keyboard is used to read the integers provided by the user.
- Add the necessary comments to the program and make it user-friendly.
- Check if the program has any syntax or logical errors.
- Modify the program to include an If / Else statement to check for division by zero.
  - If the denominator is not equal to zero, display the result of the division, otherwise display a message to the user that division by zero is not allowed.
- Make sure that the program compiles and runs correctly.
I. Multiple If/Else Statements

- Create pseudocode to determine if a number entered by the user is positive, negative, or zero. Display the number with the classification (positive, negative, zero) to the user.
- Create a class named “Classification” that implements your pseudocode solution.
- Compile and run the program and fix any errors you encounter.
- When your program works correctly, create screen shots for the program run in a Word document.
- The output should look as the figure below.