Assignment name: Pg 94 - E6 Mastery Project - MathTutor
Student name: Misha Stanev

Reflection Log

Import scanner to be able to store user input and DecimalFormat to be able to format a decimal (Show below)

```
import java.util.Scanner;
import java.text.DecimalFormat;
```

Declare two randomly generated numbers 1-10 (Shown below)

```
int firstNum = (int) (Math.random() * 11);
int secondNum = (int) (Math.random() * 11);
```

Ask the user which number they would like to use then save the input as a variable named operatorChoice (Shown below)

```
// Asks user which operator they would like to use
System.out.println("Choose the number of which operator you would like to use: ");
System.out.println("1. +");
System.out.println("2. -");
System.out.println("3. /");
System.out.println("4. *");

int operatorChoice = userInput.nextInt();
```

Add switch case to tell computer what to do for entered operator (Shown below)

```
String operatorSymbol = "";
double result = 0.0;

// Switch case depending on which operator user entered
switch (operatorChoice) {
    case 1:
        operatorSymbol = "+";
        result = firstNum + secondNum;
        break;
    case 2:
        operatorSymbol = "-";
        result = firstNum - secondNum;
        break;
    case 3:
        operatorSymbol = "/";
        if (secondNum == 0) {
            System.out.println("Cannot divide by zero.");
            break;

        }
        result = (double) firstNum / (double) secondNum;
        break;
    case 4:
        operatorSymbol = "*";
        result = firstNum * secondNum;
        break;
    default:
        System.out.println("Invalid operator selected.");
}
```

Output question for user to answer and store user input (Shown below)

```
// Outputs mathematical equation for user
System.out.println("Round to the nearest tenth if necessary");
System.out.print("What is: " + firstNum + " " + operatorSymbol + " " + secondNum + " =  ?");

// Gathers users answer
double userAnswer = userInput.nextDouble();
```

Compares user answer with correct answer and tells user if it is correct or not (Shown below)

```
 // Compares users answer with result, if correct prints "Correct!" if incorrect prints "Incorrect! The answer was _"
String finalS = dc.format(result);
 double finalAns = Double.parseDouble(finalS);
 if (userAnswer == finalAns )
     System.out.print("Correct!");
 else {
     System.out.print("Incorrect! The answer was " + finalAns);
 }
```