```java
/*
 Class: Calculator
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 */



import java.awt.*;

import BreezyGUI.*;
//declares a new public class. Everything in java is a class
//Extends the GB frame from breezy GUI
//
public class Calculator extends GBFrame
{
//Instance Variables define a class
// Everything Below to the next comment is an Instance Variable
//Private = only called from this class. Public means it can be
accessed from other classes




    private Label firstLabel;
    private Label secondLabel;
    private Label answerLabel;

    private DoubleField firstField;
    private DoubleField secondField;
    private DoubleField answerField;


    private Button additionButton;
    private Button subtractButton;
    private Button multiplyButton;
    private Button divideButton;
    private Button exponentButton;
    private Button logButton;
```

```
    private Button squareButton;
    private Button sinButton;
    private Button cosButton;
    private Button tanButton;
    private Button randomButton;
    private Button absButton;
    private Button clearButton;

    // A text area to output the answers.  You can put text into a
TextArea
    // either by using area.setText(somestring) which replaces all of
the text
    // with the new text, or area.append(somestring) which adds the new
string
    // to the text already present in the text area


   // -----This is a Constructor-------//


 /* The purpose of a constructor is to construct objects of the
  class by assigning values to the instance variables


 int = Integers #'s
 double = Decimal #'s
 boolean = True or False
 char = Single Characters



 */
    public Calculator( )
    {
        firstLabel = addLabel("First Number",1,1,1,1);
        secondLabel = addLabel("Second number",2,1,1,1);
        answerLabel = addLabel("Answer",3,1,1,1);

        firstField = addDoubleField(0,1,2,2,1);
        secondField = addDoubleField(0,2,2,2,1);
        answerField = addDoubleField(0,3,2,2,1);
```

```
    additionButton = addButton("+",4,1,1,1);
    subtractButton = addButton("-",4,2,1,1);
    multiplyButton = addButton("*",4,3,1,1);
    divideButton = addButton("/",5,1,1,1);
    exponentButton = addButton("^",6,1,1,1);
    logButton = addButton("Log10",6,2,1,1);
    sinButton = addButton("Sin in Radians",5,2,1,1);
    cosButton = addButton("Cos in Radians",7,1,1,1);
    tanButton = addButton("Tan in Radians",7,2,1,1);
    squareButton = addButton("√",5,3,1,1);
    clearButton = addButton("Clear",7,3,1,1);
    randomButton = addButton("Random #",6,3,1,1);
    absButton = addButton("Abs", 8,1,1,1);
}


//--------Methods------//
public void buttonClicked (Button buttonObj)
{
        double firstNumber = firstField.getNumber();
        double secondNumber = secondField.getNumber();
        double answer;

        if(buttonObj == clearButton)
        {
            firstField.setText("");
            secondField.setText("");
            answerField.setText("");
        }

        else if (buttonObj == additionButton)
        {
            answer = firstNumber + secondNumber;
            answerField.setNumber(answer);
        }

        else if (buttonObj == subtractButton)
        {

            answer = firstNumber - secondNumber;
```

```
    answerField.setNumber(answer);
}

else if (buttonObj == multiplyButton)
{

    answer = firstNumber * secondNumber;
    answerField.setNumber(answer);
}

else if (buttonObj == divideButton)
{

    answer = firstNumber / secondNumber;
    answerField.setNumber(answer);
}

else if (buttonObj == squareButton)
{

    answer = Math.sqrt(firstNumber);
    answerField.setNumber(answer);
}

else if (buttonObj == exponentButton)
{

    answer = Math.pow(firstNumber, secondNumber);
    answerField.setNumber(answer);
}

else if (buttonObj == logButton)
{

    answer = Math.log10(firstNumber);
    answerField.setNumber(answer);
}

else if (buttonObj == sinButton)
{
```

```
            answer = Math.sin(Math.toRadians(firstNumber));
            answerField.setNumber(answer);

        }

        else if (buttonObj == cosButton)
        {


            answer = Math.cos(Math.toRadians(firstNumber));
            answerField.setNumber(answer);

        }

        else if (buttonObj == tanButton)
        {


            answer = Math.tan(Math.toRadians(firstNumber));
            answerField.setNumber(answer);

        }
        else if (buttonObj == randomButton)
        {


            answer = Math.random();
            answerField.setNumber(answer);

        }

        else if (buttonObj == absButton)
        {


            answer = Math.abs(firstNumber);
            answerField.setNumber(answer);

        }
}
```

```
    public static void main (String[] args) // Where the Programs
starts running
    {
        //Instantiate the GUI part
        Frame frm = new Calculator();
        //Set the application's window width and height in pixels
        frm.setSize (550, 700);
        //Make the window visible to the user
        frm.setVisible (true);
        frm.setResizable(false);


    }

 }
```