```java
/** Creator: Evan Williams
    Class: CSE 385 D
    Assignment: Assignment 7
    Due Date: Nov 8, 2023 */
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.math.BigDecimal;
import java.math.RoundingMode;

public class Calculator extends JFrame {

    private JTextField display;
    private double num1, num2;
    private char operator;

    public Calculator() {
        double num1 = 0;
        double num2 = 0;
        operator = ' ';
        setTitle("Simple Calculator");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new BorderLayout());

        // Creates the actual GUI
        JPanel textPanel = new JPanel();
        textPanel.setBackground(new Color(0, 0, 50));
        textPanel.setPreferredSize(new Dimension(400, 40));
        display = new JTextField(20);
        display.setBackground(Color.LIGHT_GRAY);
        display.setEditable(false);
        display.setFont(new Font("Arial", Font.PLAIN, 18));
        display.setHorizontalAlignment(JTextField.RIGHT);
        textPanel.add(display);
        add(textPanel, BorderLayout.NORTH);
        JPanel buttonPanel = new JPanel();
        buttonPanel.setBackground(new Color(0, 0, 50));
        buttonPanel.setLayout(new GridLayout(5, 4, 5, 5));

        // Create buttons
        addButton(buttonPanel, "sin");
        addButton(buttonPanel, "cos");
        addButton(buttonPanel, "tan");
        addButton(buttonPanel, "/");
        addButton(buttonPanel, "9");
        addButton(buttonPanel, "8");
        addButton(buttonPanel, "7");
        addButton(buttonPanel, "*");
        addButton(buttonPanel, "6");
        addButton(buttonPanel, "5");
        addButton(buttonPanel, "4");
        addButton(buttonPanel, "-");
        addButton(buttonPanel, "3");
        addButton(buttonPanel, "2");
        addButton(buttonPanel, "1");
        addButton(buttonPanel, "+");
        addButton(buttonPanel, "C");
        addButton(buttonPanel, "0");
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            addButton(buttonPanel, ".");
            addButton(buttonPanel, "=");
            add(buttonPanel, BorderLayout.CENTER);

            // Set button font and background color
            for (Component component : buttonPanel.getComponents()) {
                    if (component instanceof JButton) {
                            JButton button = (JButton) component;
                            button.setFont(new Font("Arial", Font.PLAIN, 18));
                            if (button.getText().equals("=")) {
                                    button.setBackground(new Color(112, 41, 99));
                                    button.setForeground(Color.WHITE);
                            } else if (button.getText().equals("+") ||
button.getText().equals("-") || button.getText().equals("/")
                                            || button.getText().equals("*") ||
button.getText().equals("C") || button.getText().equals(".")) {
                                    button.setBackground(new Color(159, 43, 104));
                                    button.setForeground(Color.WHITE);
                            } else if (button.getText().equals("sin") ||
button.getText().equals("cos")
                                            || button.getText().equals("tan")) {
                                    button.setBackground(new Color(209, 93, 154));
                                    button.setForeground(Color.WHITE);
                            } else {
                                    button.setBackground(Color.DARK_GRAY);
                                    button.setForeground(Color.WHITE);
                            }
                    }
            }

            // ActionListener for button clicks
            ActionListener buttonListener = new ActionListener() {
                    @Override
                    public void actionPerformed(ActionEvent e) {
                            String command = ((JButton) e.getSource()).getText();
                                    handleButtonClick(command);
                    }
            };

            for (Component component : buttonPanel.getComponents()) {
                    if (component instanceof JButton) {
                            ((JButton) component).addActionListener(buttonListener);
                    }
            }

            pack();
            setLocationRelativeTo(null);
    }

    // Adds button to JPanel
    private void addButton(JPanel panel, String label) {
            JButton button = new JButton(label);
            panel.add(button);
    }

    // Handles what happens for each button pressed
    private void handleButtonClick(String command) {
            if (Character.isDigit(command.charAt(0))) {
                    display.setText(display.getText() + command);
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            } else if (command.equals("+") || command.equals("-") ||
command.equals("*") || command.equals("/")) {
                num1 = Double.parseDouble(display.getText());
                operator = command.charAt(0);
                display.setText("");
            } else if (command.equals("sin")) {
                num1 = Double.parseDouble(display.getText());
                double sin = Math.sin(Math.toRadians(num1));
                sin = round(sin, 8);
                display.setText("" + sin);
            } else if (command.equals("cos")) {
                num1 = Double.parseDouble(display.getText());
                double cos = Math.cos(Math.toRadians(num1));
                cos = round(cos, 8);
                display.setText("" + cos);
            } else if (command.equals("tan")) {
                num1 = Double.parseDouble(display.getText());
                double tan = Math.tan(Math.toRadians(num1));
                tan = round(tan, 8);
                display.setText("" + tan);
            } else if (command.equals(".")) {
                String text = display.getText();
                if(!text.contains(".")) {
                    text = text + ".";
                }
                display.setText(text);
            } else if (command.equals("=")) {
                num2 = Double.parseDouble(display.getText());
                String result = performCalculation(num1, num2, operator);
                display.setText(result);
                num1 = Double.parseDouble(result);
                num2 = 0;
                operator = ' ';
            } else if (command.equals("C")) {
                num1 = 0;
                num2 = 0;
                operator = ' ';
                display.setText("");
            }
        }

        // Performs the calculations needed when = is pressed
        private String performCalculation(double num1, double num2, char operator) {
            double result = 0;
            switch (operator) {
            case '+':
                result = num1 + num2;
                return "" + result;
            case '-':
                result = num1 - num2;
                return "" + result;
            case '*':
                result = num1 * num2;
                return "" + result;
            case '/':
                if (num2 != 0) {
                    result = num1 / num2;
                    return "" + result;
                } else {
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                    return "NaN"; // Handle division by zero
                }
            default:
                return "NaN"; // Invalid operator
            }
    }

    // Rounds a number to an nth amount of places
    private double round(double value, int places) {
        if (places < 0)
            throw new IllegalArgumentException();

        BigDecimal bd = BigDecimal.valueOf(value);
        bd = bd.setScale(places, RoundingMode.HALF_UP);
        return bd.doubleValue();
    }

    // Runs the code
    public static void main(String[] args) {
        SwingUtilities.invokeLater(() -> {
            Calculator calc = new Calculator();
            calc.setVisible(true);
        });
    }
}
```