Credit Name: Computer Science 3

Assignment Name: MetricConversion

How has your program changed from planning to coding to now? Please explain?

1. Initial Planning and Design

In the planning phase, I envisioned a simple application where users could select a conversion type and instantly see the result. The idea was to include four basic conversions: inches to centimeters, feet to meters, gallons to liters, and pounds to kilograms. I wanted to use a JComboBox for conversion selection and a JLabel to display the result. The concept was straightforward: once the user selected a conversion, the program would display the corresponding conversion value. In my mind the structure looked like this: a dropdown menu for conversions and a static result display for the selected conversion.

2. Coding the Core Features

Once I transitioned to coding, I implemented the user interface using Java Swing components. The most important part was creating a JComboBox for the user to select a conversion type and using an action listener to update the result label dynamically based on their selection.

Here's how I set up the key components:

```
comboBox = new JComboBox<>(conversions);
comboBox.setBounds(50, 20, 200, 30);
add(comboBox);

resultLabel = new JLabel("Select a conversion type:");
resultLabel.setBounds(50, 60, 250, 30);
add(resultLabel);
```

The logic for handling the user's choice was implemented using a switch statement inside an action listener, allowing the program to display different conversion values:

```
private void displayConversion(String conversion) {
    switch (conversion) {
        case "Inches to Centimeters":
        resultLabel.setText("1 inch = 2.54 centimeters");
        break;
        // other cases...
    }
```