



# **Project Assignment**

## **CSF206-Advanced Java Programming**

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## **Project Objective:**

Ques: Write a code of temperature converter by using the Java Swings,awt.

### **1.Introduction**

### **2. Code and Output Screenshots**

### **3.Conclusion**

## **INTRODUCTION**

Java Swing is a graphical user interface (GUI) toolkit for Java. It provides a set of components for building desktop applications in Java, including buttons, text fields, labels, and more.

Swing provides a wide variety of components that include buttons, text fields, labels, checkboxes, radio buttons, and more. It also includes containers such as panels, frames, and dialog boxes that can be used to organize and layout these components. Swing components are highly customizable, which makes them suitable for creating modern and professional looking applications.

Swing is a part of the Java Foundation Classes (JFC), which includes other libraries such as Java2D, Accessibility API, and the Pluggable Look and Feel (PLAF) API

**To create Temperature converter application using Java Swing, you can follow these steps:**

Here are the steps to create a temperature converter using Java Swings:

1. Create a new Java Swing project in your IDE (Integrated Development Environment) of choice, such as Eclipse or NetBeans.
2. Create a new JFrame form and give it a title like "Temperature Converter".
3. Drag and drop two JLabels, two JTextFields, and a JButton from the palette to the JFrame form.
4. Name the two JLabels as "Enter Temperature" and "Converted Temperature" respectively.
5. Name the two JTextFields as "tempInput" and "tempOutput" respectively.
6. Name the JButton as "convertBtn".
7. Set the layout of the JFrame form to "Group Layout" so that the components will be organized properly.
8. Set the text of the "convertBtn" to "Convert".
9. Write an action listener for the "convertBtn" that will convert the temperature from Fahrenheit to Celsius or vice versa based on user input.
10. Inside the action listener, get the value of the temperature input from the "tempInput" JTextField.
11. Convert the temperature to Celsius or Fahrenheit depending on user input.
12. Set the converted temperature to the "tempOutput" JTextField.
13. Run the application and test it..

## **Source Code-**

```
import javax.swing.*;

import javax.swing.border.EmptyBorder;

import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;


public class TempConvert extends JFrame {


    private JPanel contentPane;

    private final ButtonGroup buttonGroup = new ButtonGroup();


    public static void main(String[] args) {

        EventQueue.invokeLater(new Runnable() {

            public void run() {

                try {

                    TempConvert frame = new TempConvert();

                    frame.setVisible(true);

                } catch (Exception e) {

                    e.printStackTrace();

                }

            }

        });

    }

}
```

```
/**  
  
 * Create the frame.  
  
 */  
  
public TempConvert() {  
  
    setTitle("Temperature Converter");  
  
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
  
    setBounds(0, -33, 385, 272);  
  
    contentPane = new JPanel();  
  
    contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));  
  
    setContentPane(contentPane);  
  
    contentPane.setLayout(null);  
  
  
    JTextPane txtTempIn = new JTextPane();  
  
    txtTempIn.setBounds(12, 46, 124, 26);  
  
    contentPane.add(txtTempIn);  
  
  
  
    JRadioButton celRadio = new JRadioButton("Celcius");  
  
    buttonGroup.add(celRadio);  
  
    celRadio.setBounds(212, 34, 67, 24);  
  
    contentPane.add(celRadio);  
  
  
  
    JRadioButton fahrenheitRadio = new JRadioButton("Fahrenheit");  
  
    buttonGroup.add(fahrenheitRadio);
```

```
fahrenRadio.setBounds(212, 62, 85, 24);
```

```
contentPane.add(fahrenRadio);
```

```
JLabel lblTem = new JLabel("Degrees");
```

```
lblTem.setBounds(154, 49, 78, 16);
```

```
contentPane.add(lblTem);
```

```
JTextPane tempOutput = new JTextPane();
```

```
tempOutput.setBackground(UIManager.getColor("Button.background"));
```

```
tempOutput.setEditable(false);
```

```
tempOutput.setBounds(12, 138, 267, 22);
```

```
contentPane.add(tempOutput);
```

```
JButton btnNewButton = new JButton("Convert");
```

```
btnNewButton.setBounds(12, 84, 98, 26);
```

```
contentPane.add(btnNewButton);
```

```
btnNewButton.addActionListener(new ActionListener() {
```

```
    public void actionPerformed(ActionEvent arg0) {
```

```
        if(celRadio.isSelected()){
```

```
            try{
```

```
                double temp=Double.parseDouble(txtTempIn.getText());
```

```
                temp = temp * 1.8 + 32;
```

```
                tempOutput.setText(Double.toString(temp));
```

```
            }catch(Exception e){
```

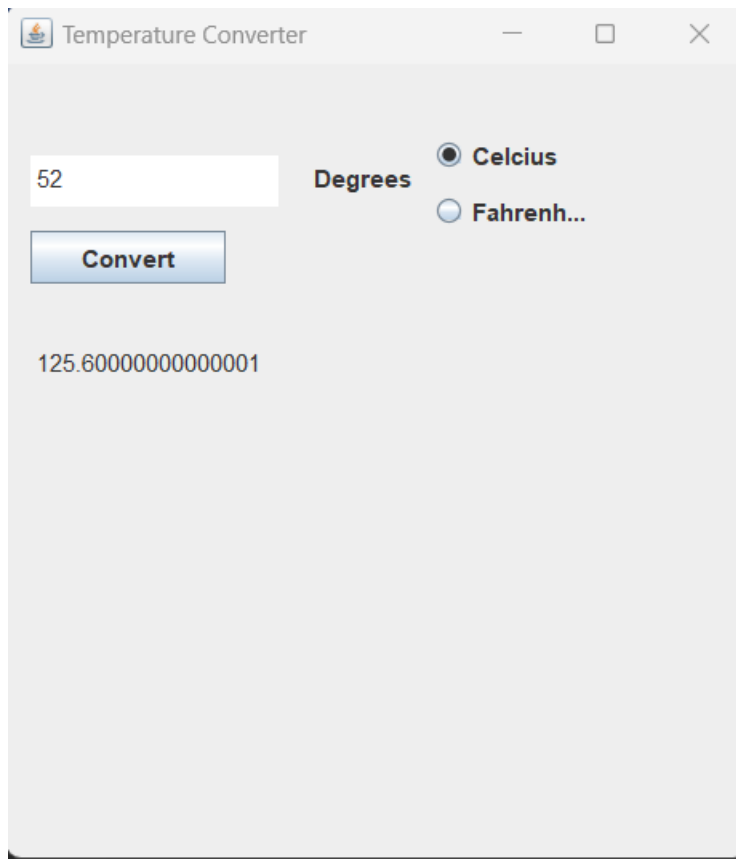
```
        tempOutput.setText("Please enter a valid temperature.");
    }
} else {
    try {
        double temp = Double.parseDouble(txtTempIn.getText());

        temp = (temp - 32) * (5.0/9.0);

        tempOutput.setText(Double.toString(temp));
    } catch (Exception e) {
        tempOutput.setText("Please enter a valid temperature.");
    }
}

});
}
}
```

## Output



The screenshot shows a window titled "Temperature Converter" with a standard macOS-style title bar (red, yellow, and green buttons). The window has a light gray background. On the left, there is a white text input field containing the number "52". Below this field is a blue button with the text "Convert". To the right of the input field, the word "Degrees" is displayed. Further right, there are two radio button options: "Celcius" (which is selected, indicated by a filled circle) and "Fahrenh..." (partially visible, indicating Fahrenheit). Below the "Convert" button, the result "125.60000000000001" is displayed in a black monospaced font.

Temperature Converter

52

Convert

Degrees

☒ Celcius

☐ Fahrenh...

125.60000000000001



## **Conclusion:**

In summary, the program provided is a simple Temperature Converter using Java Swings. It demonstrates the use of basic Swing components and event listeners in creating a graphical user interface.

This temperature converter can convert between Celsius and Fahrenheit, and that it provides users with an easy and efficient way to do so.

## **Github Link:**

[Ashish-192/Java-mini-project \(github.com\)](https://github.com/Ashish-192/Java-mini-project)