

slip10

```
class s10q1 {

    public static void main(String[] args) {

        String str = "Java is a programming language";

        int[] freq = new int[str.length()];

        char string[] = str.toCharArray();

        for (int i = 0; i < string.length; i++) {

            for (int j = 0; j < string.length; j++) {

                if (string[i] == string[j]) {

                    freq[i]++;

                }

            }

        }

        System.out.println("The frequency of each character in the given string is: ");

        for (int i = 0; i < freq.length; i++) {

            if(string[i] != ' ' && string[i] != '0') {

                System.out.println(string[i] + " : " + freq[i]);

            }

        }

    }

}
```

```
import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class CompoundInterestCalculator extends JFrame implements ActionListener {

    private JTextField principalField, rateField, timeField, totalAmountField, interestAmountField;

    private JButton calculateButton, clearButton, closeButton;

    public CompoundInterestCalculator() {

        setTitle("Compound Interest Calculator");

        setSize(400, 400);

        setLayout(new GridLayout(6, 2, 10, 10));

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        JLabel principalLabel = new JLabel("Principal Amount:");

        principalField = new JTextField();

        JLabel rateLabel = new JLabel("Interest Rate (%):");

        rateField = new JTextField();

        JLabel timeLabel = new JLabel("Time (Yrs):");

        timeField = new JTextField();

        JLabel totalAmountLabel = new JLabel("Total Amount:");

        totalAmountField = new JTextField();

        totalAmountField.setEditable(false);

        JLabel interestAmountLabel = new JLabel("Interest Amount:");

        interestAmountField = new JTextField();

        interestAmountField.setEditable(false);
```

```
calculateButton = new JButton("Calculate");

clearButton = new JButton("Clear");

closeButton = new JButton("Close");


calculateButton.addActionListener(this);

clearButton.addActionListener(this);

closeButton.addActionListener(this);


add(principalLabel);

add(principalField);

add(rateLabel);

add(rateField);

add(timeLabel);

add(timeField);

add(totalAmountLabel);

add(totalAmountField);

add(interestAmountLabel);

add(interestAmountField);

add(calculateButton);

add(clearButton);

add(closeButton);


setVisible(true);
}


public void actionPerformed(ActionEvent e) {

    if (e.getSource() == calculateButton) {

        calculateCompoundInterest();
```

```

    } else if (e.getSource() == clearButton) {

        clearFields();

    } else if (e.getSource() == closeButton) {

        System.exit(0);

    }

}

private void calculateCompoundInterest() {

    try {

        double principal = Double.parseDouble(principalField.getText());

        double rate = Double.parseDouble(rateField.getText());

        double time = Double.parseDouble(timeField.getText());

        double totalAmount = principal * Math.pow(1 + (rate / 100), time);

        double interestAmount = totalAmount - principal;

        totalAmountField.setText(String.format("%.2f", totalAmount));

        interestAmountField.setText(String.format("%.2f", interestAmount));

    } catch (NumberFormatException ex) {

        JOptionPane.showMessageDialog(this, "Please enter valid numbers for Principal, Rate, and Time.",
        "Invalid Input", JOptionPane.ERROR_MESSAGE);

    }

}

private void clearFields() {

    principalField.setText("");

    rateField.setText("");

    timeField.setText("");

    totalAmountField.setText("");

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```
        interestAmountField.setText("");  
    }  
  
    public static void main(String[] args) {  
        new CompoundInterestCalculator();  
    }  
}
```

```
import tkinter as tk  
  
from tkinter import messagebox  
  
def show_alert():  
  
    messagebox.showinfo("Alert", "Button was pressed!")  
  
root = tk.Tk()  
root.title("Alert Message Example")  
  
alert_button = tk.Button(root, text="Press Me", command=show_alert, font=("Arial", 14))  
alert_button.pack(pady=20)  
  
root.mainloop()
```