

Lab Report 5 : Creating Discount Calculator

Course Title: Mobile Application Development

Course Code: CSE-410



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GitHub Repository:

You can find the repository at the following link:

https://github.com/RubayedMunna/Android-Lab/tree/main/Lab_5

Code:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res
    /android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <TextView
        android:id="@+id/appTitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/app"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginTop="80dp"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginBottom="16dp" />

    <TextView
        android:id="@+id/billAmountLabel"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Bill Amount"
        android:textSize="16sp"
        android:textColor="#FF5722"
        android:textStyle="bold"
        android:layout_below="@id/appTitle"
        android:layout_marginTop="8dp" />

    <EditText
        android:id="@+id/billAmountInput"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/bill_amount"
        android:inputType="numberDecimal"
        android:layout_below="@id/billAmountLabel" />

    <TextView
```

```
        android:id="@+id/discountLabel"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Discount Amount (%)"
        android:textSize="16sp"
        android:textColor="#FF5722"
        android:textStyle="bold"
        android:layout_below="@id/billAmountInput"
        android:layout_marginTop="8dp" />

<EditText
    android:id="@+id/discountInput"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/discountLabel"
    android:hint="@string/discount_amount"
    android:inputType="numberDecimal" />

<TextView
    android:id="@+id/moneyGivenLabel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Money Given"
    android:textSize="16sp"
    android:textColor="#FF5722"
    android:textStyle="bold"
    android:layout_below="@id/discountInput"
    android:layout_marginTop="8dp" />

<EditText
    android:id="@+id/moneyGivenInput"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/moneyGivenLabel"
    android:hint="@string/given_money"
    android:inputType="numberDecimal" />

<Button
    android:id="@+id/calculateButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/moneyGivenInput"
    android:text="@string/cash_back" />

<Button
    android:id="@+id/clearButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/calculateButton"
    android:text="Clear Fields"
    android:layout_marginTop="8dp" />
```

```
<TextView
    android:id="@+id/resultTextView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/clearButton"
    android:textSize="18sp"
    android:layout_marginTop="16dp" />

</RelativeLayout>
```

Listing 1: activity_main.xml

MainActivity.java

```
package com.example.changecalculator;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText billAmountInput;
    private EditText discountInput;
    private EditText moneyGivenInput;
    private TextView resultTextView;
    private Button calculateButton;
    private Button clearButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        billAmountInput = findViewById(R.id.billAmountInput);
        discountInput = findViewById(R.id.discountInput);
        moneyGivenInput = findViewById(R.id.moneyGivenInput);
        resultTextView = findViewById(R.id.resultTextView);
        calculateButton = findViewById(R.id.calculateButton);
        clearButton = findViewById(R.id.clearButton);

        calculateButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calculateCashBack();
            }
        });

        clearButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
```

```

        clearFields();
    }
});
}

private void calculateCashBack() {
    try {
        double billAmount = Double.parseDouble(billAmountInput.
getText().toString());
        double discountAmount = Double.parseDouble(discountInput.
getText().toString());
        double moneyGiven = Double.parseDouble(moneyGivenInput.
getText().toString());

        double finalAmount = billAmount - billAmount * (
discountAmount / 100.0);
        double cashBack = moneyGiven - finalAmount;

        if (cashBack < 0) {
            resultTextView.setText("Not enough money given!\nDue
amount: " + cashBack * (-1));
        } else {
            resultTextView.setText("Cash Back: " + cashBack);
        }
    } catch (NumberFormatException e) {
        resultTextView.setText("Please enter valid numbers.");
    }
}

private void clearFields() {
    billAmountInput.setText("");
    discountInput.setText("");
    moneyGivenInput.setText("");
    resultTextView.setText("");
}
}

```

Listing 2: MainActivity.java

strings.xml

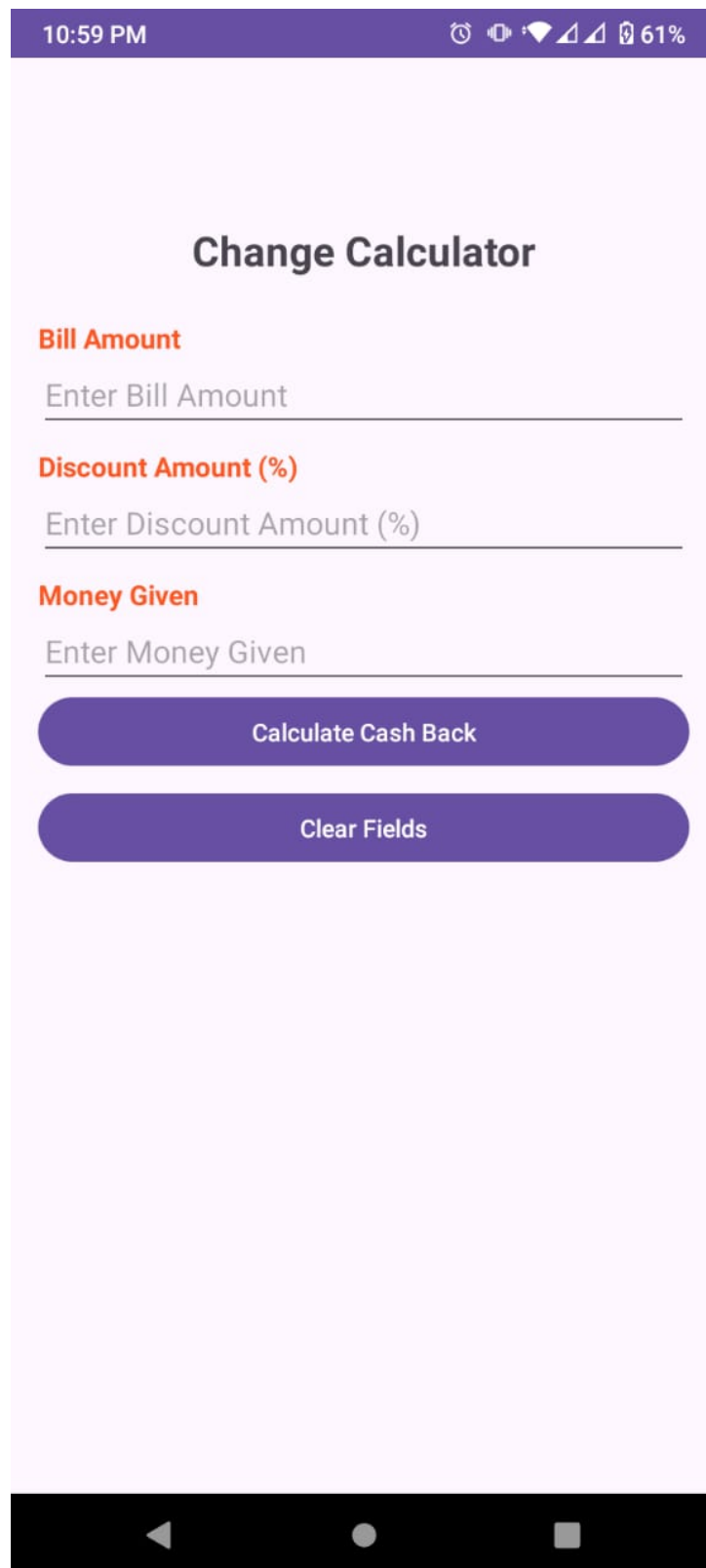
```

<resources>
    <string name="app_name">ChangeCalculator</string>
    <string name="app">Change Calculator</string>
    <string name="bill_amount">Enter Bill Amount</string>
    <string name="discount_amount">Enter Discount Amount (%)</
    string>
    <string name="given_money">Enter Money Given</string>
    <string name="cash_back">Calculate Cash Back</string>
</resources>

```

Listing 3: strings.xml

Output:



The screenshot shows a mobile application titled "Change Calculator". The interface has a light purple background. At the top, there is a status bar with the time "10:59 PM" and various icons. Below the title, there are three input fields, each with a label in orange text: "Bill Amount", "Discount Amount (%)", and "Money Given". Each input field has a placeholder text "Enter [label]". Below the input fields, there are two purple buttons with white text: "Calculate Cash Back" and "Clear Fields". At the bottom of the screen, there is a black navigation bar with three icons: a back arrow, a home circle, and a recent apps square.

Figure 1: First Look of The App

The screenshot shows a mobile application interface with a purple header bar displaying the time 10:59 PM and various status icons. The main title 'Change Calculator' is centered in bold black text. Below the title, there are three input fields with orange labels: 'Bill Amount' (value 500), 'Discount Amount (%)' (value 15), and 'Money Given' (value 500). Each input field has a horizontal line underneath. Below the input fields are two purple buttons with white text: 'Calculate Cash Back' and 'Clear Fields'. At the bottom, the result 'Cash Back: 75.0' is displayed in black text. The entire app interface is set against a light purple background. At the very bottom, there is a black navigation bar with three white icons: a back arrow, a circle, and a square.

Field	Value
Bill Amount	500
Discount Amount (%)	15
Money Given	500
Cash Back	75.0

Figure 2: When More Amount Is paid Than Actual Bill

10:59 PM 61%

Change Calculator

Bill Amount
500

Discount Amount (%)
15

Money Given
400

Calculate Cash Back

Clear Fields

Not enough money given!
Due amount: 25.0

Figure 3: When Less Amount Is paid Than Actual Bill