**Tip Calculator App:**

Develop an app that calculates the tip amount based on the bill total and percentage of tip selected by the user.

Video Recorded Lecture:

Part 1:

<https://drive.google.com/file/d/1RmfCRCuKRd7q_IteufDCSH9K0QO8WptF/view?usp=sharing>

Part 2:

<https://drive.google.com/file/d/1tkNNVreuVeaKkkiJ8XUhv_KRD3oynPQ8/view?usp=sharing>

**Step 1:** Create the layout XML file for the user interface (activity\_main.xml):

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextBillAmount"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Bill Amount"

android:inputType="numberDecimal" />

<EditText

android:id="@+id/editTextTipPercentage"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextBillAmount"

android:layout\_marginTop="16dp"

android:hint="Enter Tip Percentage"

android:inputType="number" />

<Button

android:id="@+id/buttonCalculate"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextTipPercentage"

android:layout\_marginTop="16dp"

android:text="Calculate Tip" />

<TextView

android:id="@+id/textViewTipAmount"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonCalculate"

android:layout\_marginTop="16dp"

android:text="Tip Amount: $0.00"

android:textSize="20sp" />

</RelativeLayout>

**JAVA CODE:**

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;

import java.text.DecimalFormat;

public class MainActivity extends AppCompatActivity {

private EditText editTextBillAmount, editTextTipPercentage;

private Button buttonCalculate;

private TextView textViewTipAmount;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextBillAmount = findViewById(R.id.editTextBillAmount);

editTextTipPercentage = findViewById(R.id.editTextTipPercentage);

buttonCalculate = findViewById(R.id.buttonCalculate);

textViewTipAmount = findViewById(R.id.textViewTipAmount);

buttonCalculate.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

calculateTip();

}

});

}

private void calculateTip() {

// Get bill amount from EditText and convert it to a double

double billAmount = Double.parseDouble(editTextBillAmount.getText().toString());

// Get tip percentage from EditText and convert it to a double

double tipPercentage = Double.parseDouble(editTextTipPercentage.getText().toString());

// Calculate tip amount

double tipAmount = (billAmount \* tipPercentage) / 100;

// Format the tip amount to display with 2 decimal places

DecimalFormat decimalFormat = new DecimalFormat("#.00");

String formattedTipAmount = decimalFormat.format(tipAmount);

// Display the tip amount in the TextView

textViewTipAmount.setText("Tip Amount: $" + formattedTipAmount);

}

}

**CODE EXPLANATION:**

**parseDouble(String s):**

* This method is part of the Double class.
* It converts the string representation of a floating-point number into a double.
* In this code, it's used to convert the user input from the EditText fields (bill amount and tip percentage) into double values for calculation.

**format(String pattern):**

* This method is part of the **DecimalFormat** class.
* This class allows you to control the display of leading and trailing zeros, prefixes and suffixes, grouping (thousand) separators, and the decimal separators.
* It formats a given number according to the specified pattern.
* In this code, it's used to format the calculated tip amount with two decimal places before displaying it in the TextView.

**setOnClickListener(View.OnClickListener):**

* This method is called on the Button (buttonCalculate) to set an event listener for handling click events.
* It takes an instance of View.OnClickListener as a parameter, which defines the action to be performed when the button is clicked.
* In this case, it's an anonymous inner class implementing View.OnClickListener, where the onClick(View v) method is overridden to call the calculateTip() method.