

# Tip Calculator App



Create a TipCalculator that allows the user to enter the BillAmount via the virtual keyboard and then use the SeekBar to drag the Tip Percentage and find out what the Tip should be and the Total (Bill + Tip).

The example is a single Activity Android application with a 2 column GridLayout and multiple widgets with the appropriate listeners.

Create a TipCalculator app using the following widgets: (Some hints are included to help you)

- EditText
  - `inputType = number`
  - `columnSpan = 2`
- SeekBar
  - The listener for the Seekbar is **OnSeekBarChangeListener**.
  - The methods that need to be overridden are **onProgressChanged**, **onStartTrackingTouch**, **onStopTrackingTouch**.
  - **onProgressChanged** automatically receives the progress as an **int**. Use the value to calculate the Tip Amount by multiplying it as a % against the bill amount. Use the Bill Amount plus Tip Amount to calculate the Total.
  - Don't forget to update the display by using **setText** on the **TextViews** for Tip and Total.
- TextView
  - There are 6 TextViews
  - 1 of them overlaps with the EditText to display the text when the bill amount is entered via the virtual on screen keyboard.

- 3 are used as labels
- 2 are used to display the tip amount and total amount

Link to starter code on github

[https://github.com/esofianos/cmp430fall2018/tree/master/miniproject1\\_startercode](https://github.com/esofianos/cmp430fall2018/tree/master/miniproject1_startercode)

starter code is also pasted below

# JAVA

```
package example.basic.com.exampletipcalculator;
```

```
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.text.Editable;
import android.text.TextWatcher;
import android.util.Log;
import android.widget.EditText;
import android.widget.SeekBar;
import android.widget.TextView;
```

```
import java.text.NumberFormat;
```

```
public class MainActivity extends AppCompatActivity implements TextWatcher,
SeekBar.OnSeekBarChangeListener{
```

```
//declare your variables for the widgets
```

```
private EditText editTextBillAmount;
private TextView textViewBillAmount;
```

```
//declare the variables for the calculations
```

```
private double billAmount = 0.0;
private double percent = .15;
```

```
//set the number formats to be used for the $ amounts , and % amounts
```

```
private static final NumberFormat currencyFormat =
    NumberFormat.getCurrencyInstance();
private static final NumberFormat percentFormat =
    NumberFormat.getPercentInstance();
```

```
@Override
```

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

*//add Listeners to Widgets*

**editTextBillAmount** = (EditText)findViewById(R.id.**editText\_BillAmount**);*//uncomment this line*  
**editTextBillAmount**.addTextChangedListener((TextWatcher) **this**);*//uncomment this line*

**textViewBillAmount** = (TextView)findViewById(R.id.**textView\_BillAmount**);  
}

**@Override**

**public void** beforeTextChanged(CharSequence charSequence, **int** i, **int** i1, **int** i2) {  
  
}

*/\**

*Note: int i, int i1, and int i2*

*represent start, before, count respectively*

*The charSequence is converted to a String and parsed to a double for you*

*\*/*

**@Override**

**public void** onTextChanged(CharSequence charSequence, **int** i, **int** i1, **int** i2) {  
    Log.d(**"MainActivity"**, **"inside onTextChanged method: charSequence= "**+charSequence);  
    *//surround risky calculations with try catch (what if billAmount is 0 ?*  
    *//charSequence is converted to a String and parsed to a double for you*  
    **billAmount** = Double.parseDouble(charSequence.toString()) / 100; Log.d(**"MainActivity"**, **"Bill**  
**Amount = "+billAmount**);  
    *//setText on the textView*  
    **textViewBillAmount**.setText(**currencyFormat**.format(**billAmount**));  
    *//perform tip and total calculation and update UI by calling calculate*  
    calculate();*//uncomment this line*  
}

**@Override**

**public void** afterTextChanged(Editable editable) {  
  
}

**@Override**

**public void** onProgressChanged(SeekBar seekBar, **int** progress, **boolean** b) {  
    **percent** = progress / 100; *//calculate percent based on seeker value*  
    calculate();  
}

**@Override**

**public void** onStartTrackingTouch(SeekBar seekBar) {  
  
}

```

@Override
public void onStopTrackingTouch(SeekBar seekBar) {

}

// calculate and display tip and total amounts
private void calculate() {
    Log.d("MainActivity", "inside calculate method");
    //uncomment below
    /*
    // format percent and display in percentTextView
    textViewPercent.setText(percentFormat.format(percent));

    // calculate the tip and total
    double tip = billAmount * percent;
    //use the tip example to do the same for the Total

    // display tip and total formatted as currency
    //user currencyFormat instead of percentFormat to set the textViewTip
    // tipTextView.setText(currencyFormat.format(tip));
    //use the tip example to do the same for the Total
    */
}
}

```

# XML

```

<?xml version="1.0" encoding="utf-8"?>
<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="example.basic.com.exampletipcalculator.MainActivity">

    <EditText
        android:id="@+id/editText_BillAmount"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_column="0"
        android:layout_columnSpan="2"
        android:layout_row="0"
        android:ems="10"
        android:inputType="number"
        android:maxLength="6"
        android:padding="@dimen/padding_textView_default"

```

```
android:textStyle="bold" />
```

```
<TextView
```

```
    android:id="@+id/textView_BillAmount"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_column="0"
```

```
    android:layout_columnSpan="2"
```

```
    android:layout_gravity="fill_horizontal"
```

```
    android:layout_row="0"
```

```
    android:background="@color/backgroundBillAmount"
```

```
    android:hint="@string/textView_billAmountHint"
```

```
    android:labelFor="@+id/editText_BillAmount"
```

```
    android:padding="@dimen/padding_textView_default"
```

```
    android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium"
```

```
    android:textStyle="bold" />
```

```
</GridLayout>
```