**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 overriden 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

EXAMPLE:



starter code is pasted below

*//***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***);

*/\* Note: each View that will be retrieved using findViewById needs to map to a View with the matching id*

*Example:* **editTextBillAmount**

*Needs to map to a View with the following:* **android:id="@+id/editText\_BillAmount**

*\*/*

*//***editTextBillAmount**.addTextChangedListener((TextWatcher) **this**);

*//***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*

*\*/*

}

}