

Assignment 5 – Tip Calculator and Bill Splitter

Goals

- Create a UI that allows the user to enter bill amount, tip percentage, and number of payers
- Create a multiple listeners to respond to user input
- Calculate the appropriate information
- Use string resources to display in UI widgets
- Use UI components

Required naming convention *(replace # with the current assignment number)*

- **Application Name**
 - A#
- **Company Domain**
 - *firstname.lastname.itp341*
- **Package Name** *(should be automatically generated)*
 - *itp341.lastname.firstname.a#.app*
- **Zip File** (include entire project folder)
 - *A#.Lastname.FirstName.zip*

Requirements

- Create new Android Application Project
- Follow default prompt, but make sure to choose **Empty Activity**
- UI
 - Follow the rules in the Android Design Guide. This includes height of widgets, spacing, padding, etc.
<http://developer.android.com/design/style/metrics-grids.html>
 - Create a constraint layout
 - Create the following layout (you may add additional features as extra credit

Bill Amount	<input type="text"/>
Percent	15% <input type="range"/>
Tip	\$0.00
Total	\$0.00
Split Bill?	No <input type="button" value="▲"/>

Bill Amount	<input type="text"/>
Percent	15% <input type="range"/>
Tip	\$0.00
Total	\$0.00
Split Bill?	3 ways <input type="button" value="▲"/>
Per Person	\$0.00

- Widgets
 - Follow the screen sample for laying out widgets and which type to use
 - **Split bill** Spinner options
 - No
 - 2 ways
 - 3 ways
 - 4 ways
 - **Percent** SeekBar
 - Range from 0-30
- Activity class
 - Best Practices Reminder
 - Be sure to create class members that will refer to the widget you want to access later
 - This means you should only call **findViewById** in the **onCreate** method
 - Configure listeners for buttons
 - See below
- Listeners
 - Create a listener for each input widget. When the user updates one of these widgets, the **Total** and the **Tip** values will update automatically
 - EditText listener
 - Important note: The EditText listener will be triggered when you press **Enter** on the keyboard
 - SeekBar listener
 - Spinner listener
 - If the user click **No** to splitting the bill, the **Per Person** views should hide
 - If the user clicks another option, the **Per Person** views should appear
 - **Tip Amount** is calculated based on the tip percentage and the bill amount
 - **Total Amount** is also calculated based tip amount and bill amount

- **Per Person** is calculated based on the tip amount and the total amount *divided* by the number of payers
- Test app on Nexus 5 AVD

Sample Output (using Nexus 5)

Bill Amount	20
Percent	15%
Tip	\$3.00
Total	\$23.00
Split Bill?	No

Bill Amount	20
Percent	23%
Tip	\$4.60
Total	\$24.60
Split Bill?	2 ways
Per Person	\$12.30

Deliverables

1. A compressed file containing your app. Follow the guidelines for full credit.
Here are the instructions for submission
 - a) Navigate to your project folder.
 - b) Include the *entire* folder in a zip file
 - c) Upload zip file to Blackboard site for our course

Grading

Item	Points
Layout meets specifications	10
SeekBar update TextView listener	10
EditText listener	5
Spinner design and listener	10
Total	35