Mobile Computing Android
Assignment #1
Points: 60

Goal: Build a simple app with a text view, an editable text, and a button. The goal is that it will compute the 32bit binary representation of the number in the editable text.

Requirements:

- The edit text valueET will be at the top of screen centered. Leave space between it and the top of the screen. The edit text should be restricted to numbers. Set a hint for the edit text appropriately.
- The button will be centered and below the edit text.
- The button should have the text "To Binary".
- The "displayTV" text view will be below the button and centered
- The initial text for the display text view will be "no result".
- The button will have an onClick action that acquire the string from the editable text component. It will convert the string into an integer as seen in class. It will then convert the integer value into a binary using Integer.toBinaryString. It will add "0"s to the front of the string so that you have 32 bits in what you will display. Put the resulting string into the displayTV.
- Change the app name to ***Converter*** (Change the string in the string folder under values in res.
- The app should not crash in any circumstance.
- Use "00000000000000000000000000000000" as the default display for value strings that are not convertible.

Note: There is lot of scope for improvement in the application, so use your creativity to beautify and improve the function the application. Here are some suggestions of some extra things you can do, but do not feel limited to just these suggestions.

Bonus:

- Change the properties (Size, Color, Font) of the text.
- Add a TextView next to the EditText that explains its purpose.
- Add a TextView for reporting exceptions. When you click the button clear it. If there is an exception set the text to report it.
- Add a button "COMPLEMENT" that flip all the bits between 0 and 1.
- Add a button "2s COMPLEMENT" that will flip all of the bits and then add one to the result. If you get a 33rd bit, just discard it.
- Add a button "HEX" that will display the result in hexadecimal
- Change the display to an EditText and add a button that will convert from binary back to decimal.

Approximate Layout: