CSC 372/472 Mobile Application Development for Android

Programming Assignment 2
A Simple Calculator

Due Date

- Assignment due on Wednesday September 30, 2015, 11:59pm
- Submit your assignment in D2L
- Submit a single zip file that contains the contents of the project folder
- You must use a unique prefix for the project name. (I suggest you use your last name and first initial as your prefix.) **Please use the same prefix for all your assignments.**
- Do not include unused or unrelated files.
- Before you submit, build and run the project, make sure everything compiles and works. Close your project before zipping the folder.
- Here are the most common reasons assignments are marked down:
    - Project does not build.
    - Project does not build without warnings.
    - One or more items in the Requirements section were not satisfied.
    - A fundamental concept was not understood.
    - Code is sloppy and hard to read (e.g. indentation is not consistent, etc.).
    - Your solution is difficult (or impossible) for someone reading the code to understand due to lack of comments, poor variable/method names, poor solution structure, etc.

Goals

- Explore Android Studio and Android SDK
- Create a simple app with a single activity
- Create a simple UI using linear layouts, text views, and buttons
- Use XML to define the UI
- Handle events from the UI

Requirements

1. Create a simple calculator app similar to the one shown at the right

   - Use the *Button* widget for the digits, '+', and '=' keys.
   - Use the *Text View* widget to display the result.
   - You only need to handle integer additions in this assignment.
   - The current value should be displayed after a digit button is pressed.
   - After the '+' button is pressed, the app will wait for the user to input the next number to be added.
   - The result, i.e., the sum, should be displayed after the '=' button is pressed.
   - Your app should properly handle input sequences such as:
     - 1 2 + 4 5 =   (the result should be 57)
     - 1 2 + 4 5 = + 6 7 =   (the result should be 124)
     - 1 2 + 4 5 + 6 7 =   (the result should also be 124, after the second + the intermediate result 57 should be displayed)
   - A digit button immediately following '=' indicates the start of the first number of a new addition (the previous result is discarded). In other words, the following sequence

     1 0 + 2 0 = 1 1 + 5 =   should give the result 16.
   - No need to handle integers greater than the maximum value of int. No need to handle overflows.

2. Make sure your program
   a. builds without errors or warnings, and
   b. runs without crashing.