Mobile Application Development
In Class Assignment 2

Basic Instructions:

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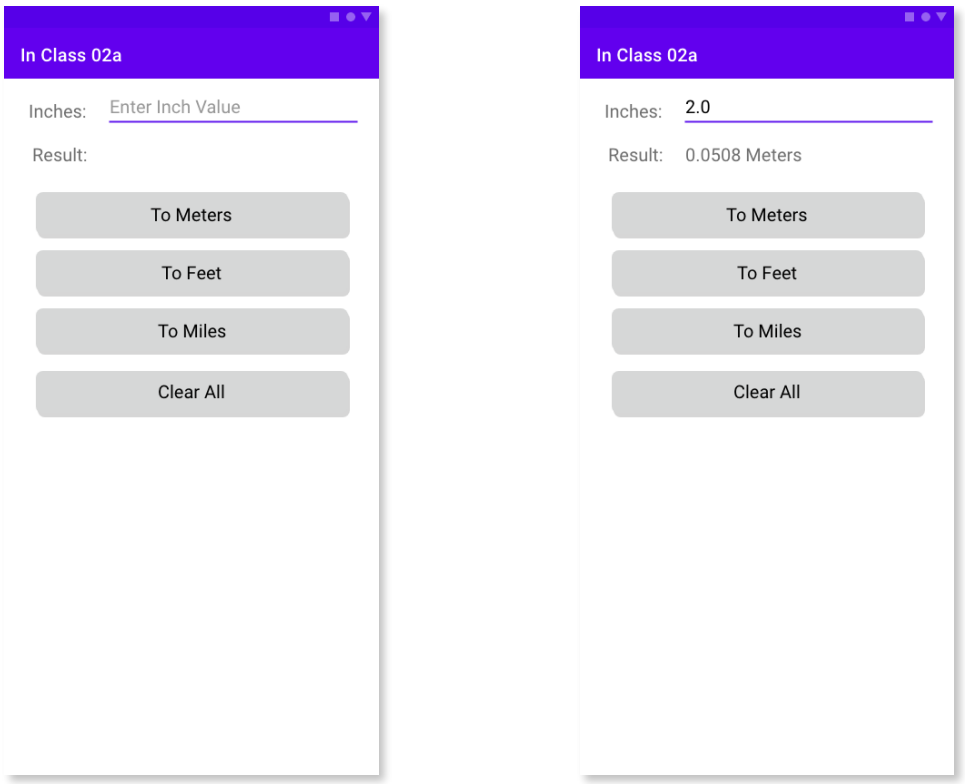
1. In every file submitted you MUST place the following comments:
    a. Assignment #.
    b. File Name.
    c. Full name of the student.
2. Each group is required to submit the assignment on Canvas.
3. Please download the support files which include a Java project to be used for this assignment.
4. **Submit Codes:**
    a. Zip all the project folder to be submitted on canvas.
5. Submission details:
    a. The file name is very important and should follow the following format: **InClass02.zip**
    b. You should submit the assignment through Canvas: Submit the zip file.
6. **Failure to follow the above instructions will result in point deductions.**

In Class Assignment 2 (100 Points)

In this assignment you will build your first Android application. You will get familiar with some common Android components and how to interact with them. You will build a Distance conversion calculator application comprising of a single activity.



(a) Initial Screen **(b) Conversion Result**

Figure 1, Application User Interface (Part 1)

Part 1 (50 Points): Using Buttons

The interface should be created to match the user interface presented in Figure 1(a). You will be using layout files, and strings.xml to create the user interface. The layout XML file can be modified through the raw xml, or through the GUI tools provided within Android Studio. To build the UI, please follow the following tasks:

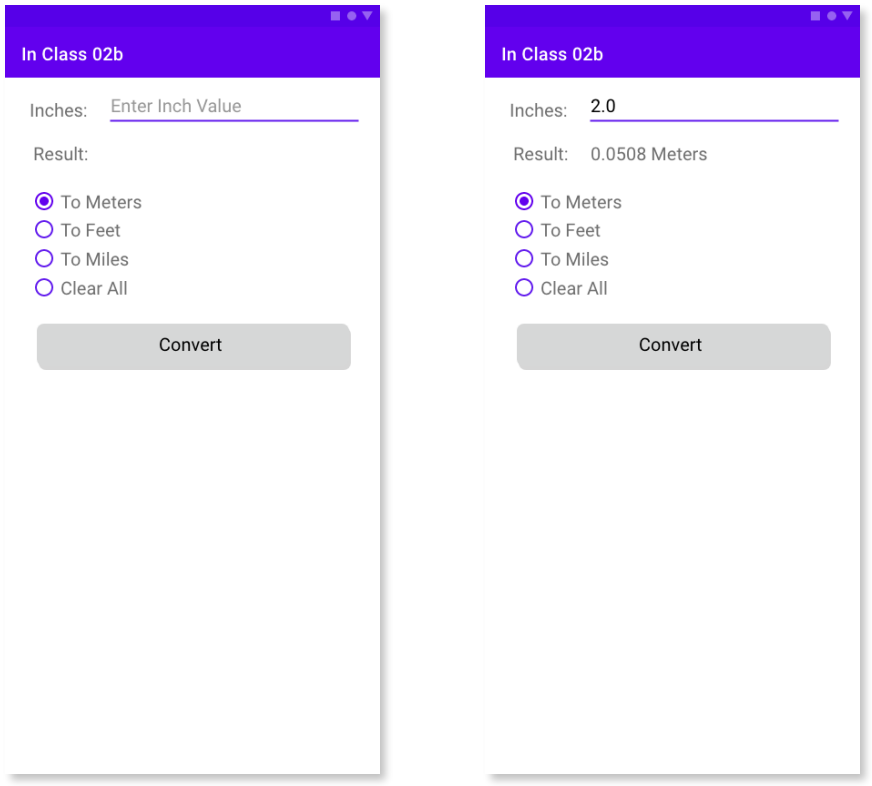
1. Create a new android project called “In Class 2a”.
2. The string values used for the button labels should be read from the strings.xml file and should not be hardwired in the layout file.
3. Each button will perform the logic of the corresponding conversion and display the converted inches in the Result TextView in the format shown in Figure 1(b). The conversion formulas are listed below:
   a. 1 Inch = 0.0254 Meters
   b. 1 Inch = 1/12 Feet
   c. 1 Inch = 1/63360 Miles

4. Use the “Hint” attribute to set the “Enter Distance” grayed out hint in the EditView of the input field for Meters.
5. Your code should check for special cases such as when no distance is entered, invalid number and special characters. In such cases, display a Toast message indicating the error, and prevent the conversion.
6. ClearAll: should clear the entered distance and the result, and set them to their default grayed out hints “Distance” and “Result:” respectively (See Figure 1(a)).

Part 2 (50 Points): Using Radio Buttons

The interface should be created to match the user interface presented in Figure 2(a). To build the UI, please follow the following tasks:

1. Create a new android project called “In Class 2b”.
2. The string values used for the button labels should be read from the strings.xml file and should not be hardwired in the layout file.
3. This is an app similar to the app in Part 1 with only one difference, instead Radio Buttons will be used instead of Buttons. You are asked to properly use Radio Group and Radio Buttons to check which operation is being selected and perform it accordingly when the user clicks the “Convert” button.The app should function similar to the app in part 1.



(a) Initial Screen **(b) Conversion Result**

Figure 2, Application User Interface (Part 2)