Lab Assignment #1 – Developing an Android application that includes multiple activities and fragments.

Due Date: Mid-night (11.59 pm) Sunday ***Week 3*** **Marks/Weightage: 30/5%**

Purpose: The purpose of this lab assignment is to:

- Use Android Studio IDE
- Explain and use Android Manifest file
- Explain and use Intents in Android apps
- Use resources in Android apps
- Use fragments

References: Textbook, ppt slides, class examples, and Android tutorials (**http://developer.android.com/training/basics/firstapp/creating-project.html**). This material provides the necessary information that you need to complete the exercises.

Be sure to read the following general instructions carefully:

- This assignment must be completed individually by all the students.
- You will have to upload the solution on eCentennial through the assignment link under Assessments.

Android Module Naming rules:

You must name your Android Studio project according to the following rule:
yourfullname_COMP304Labnumber_Exercisenumber.

Example: **johnsmith_COMP304Lab1_Ex1**

Submission rules:

Submit your projects as **zip files** that are named according to the following rule:
yourfullname_COMP304Labnumber_Exercisenumber.zip

Example: **johnsmith_COMP304Lab1_Ex1.zip**

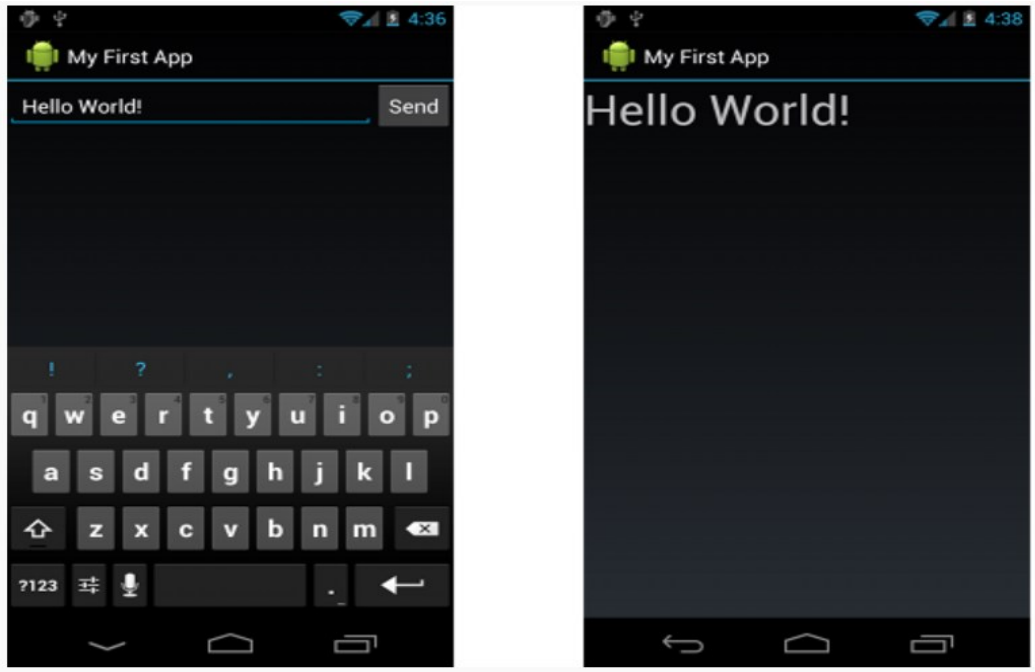
Use Android Studio Export to zip feature to zip your projects.

Exercise 1:

[5 marks]

In this exercise, you will build a simple Android application using Android Studio as described here: **http://developer.android.com/training/basics/firstapp/creating-project.html**.
Make sure you name the project as described on page 2 of this document.

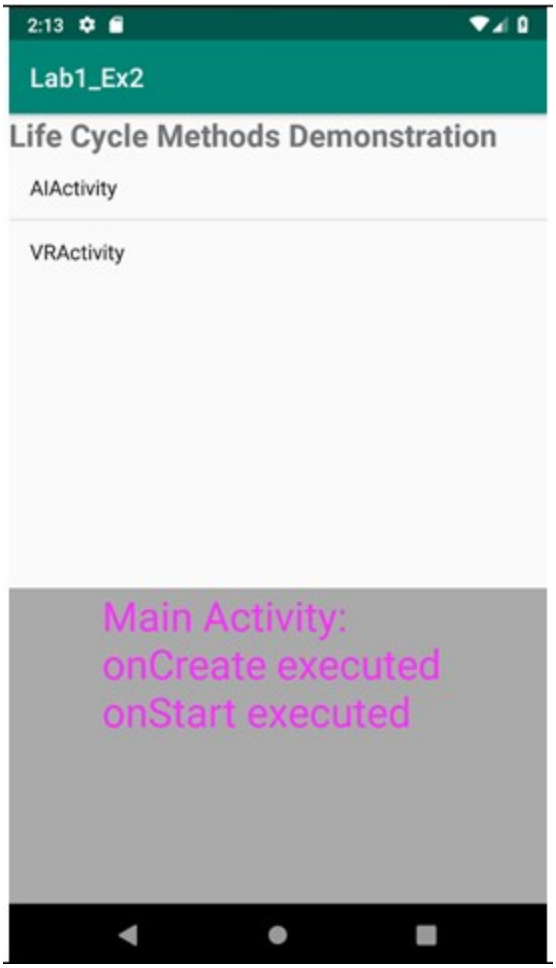
Skip the steps that require the use of command line tools or real devices. This app allows the user to type a message in the text field and click Send button. The message will appear on the second activity as shown below.

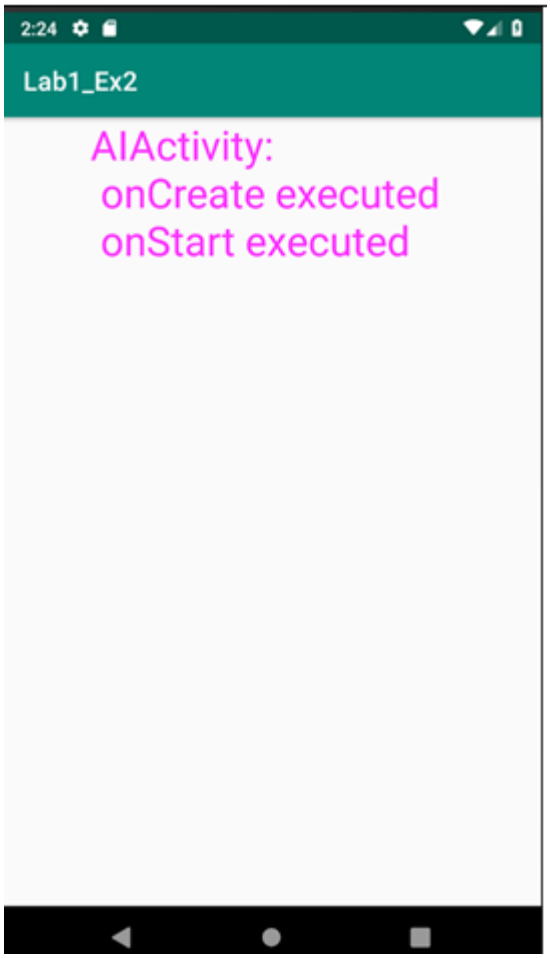


Exercise 2:

[15 marks]

Write an Android Application that demonstrates the activity life cycle and fragments. The main activity should have two fragments. The top fragment contains a list view control whose items are the names of two other activities, AIActivity and VRActivity. The bottom fragment uses a text view control to display the list of life cycle methods that take place when the main activity starts.





Use **Toast** class methods to display a quick message in fragment's onCreateView and onStart methods.

The AIActivity and ARActivity should each have a TextView control to display messages when onCreate, onStart, onStop, and onDestroy are executed.

Declare the String resources in **strings.xml** file. Feel free to use the code from SimpleFragmentsExample app from Week 1 examples.

Evaluation table:

Item	Percentage of total mark

Functionality:
• **Correct implementation of activities**
  ○ Class code for main activity and two other activities
  ○ UI in XML/layout
  ○ Resources in XML
• **Correct implementation of fragments**
  ○ Class code
  ○ UI in XML
• **Correct implementation of Event Handlers and life cycle methods**
  ○ onListItemClick event
  ○ life cycle methods for activities and fragments (onCreate, onStart, onCreateView, etc)
	30%
	30%
	25%

User Friendliness: • Alignments of UI controls • Friendly I/O	10%
Comments, correct naming of variables, methods, classes, etc.	5%
Total	100%