

Worksheet 2 – Events, Activity Lifecycle, Simple Programming Tasks

Date: _____

Team Members: _____

The purpose of this worksheet is to begin considering what will be expected, in terms of scope and level of effort required for final projects. You will also practice what we have learned regarding Activities and Events, while simultaneously introducing new topics, including the Activity Life Cycle.

This worksheet is to be done in collaboration with your project team. Although we are working with Android, the concepts apply for any device.

Warmup:

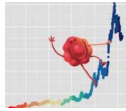
1. **What is the difference between Early and Late Event Binding?**

2. **What are some good routines/things to do (generally speaking) to include in the Activity's onCreate Event?**

3. **Why would a developer prefer to use Early vs. Late Binding of Events?**

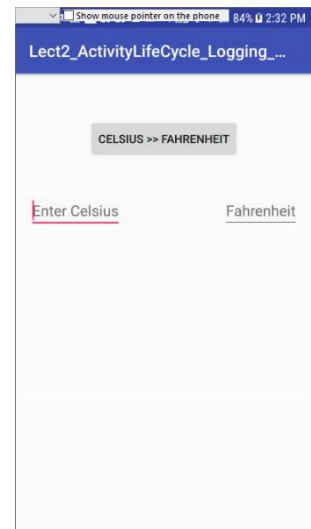
Part I: Shark Tank Elevator Pitches.

Your instructor will provide you with some exciting project ideas. Your job is to pitch these ideas as if you were on the show Shark Tank.



Part II: Simple Programing Task.

Modify the Celsius to Fahrenheit program, provided by your instructor to also convert Fahrenheit to Celsius. You may edit the design anyway you like, adding or reusing views as needed. This should take about 20 minutes. You will be demoing the updated App in Action.



Part III

Implement a program with a blank Activity that logs the Activity Lifecycle as you interact with both the Activity and the device. You don't need to add any Views to your Activity. *Your instructor will give you a list of events to Log. Use the official Activity Lifecycle from Android to identify the key lifecycle events.* <https://developer.android.com/guide/components/activities/activity-lifecycle.html>

4a. What events are called when the App first starts up?

4b. What events are called when the user clicks the home button on the device and then "restarts" the App?

4c. What events are called when the user hits the back button, and then "restarts" the app?

4d. What events are called if you rotate the phone, switching between portrait and landscape then back to portrait?

4e. What events are called if you receive a phone call, and then “restart” the app?

Part III (cont.)

Now Add 3 views to your Activity. When the Button View is clicked “Hello” should appear in both EditText and the TextView. The Activity lifecycle will not change, but you may notice something *odd* about the state of the Text in the EditText/TextViews as you interact with the device.



4f. Describe what happens to the “Hello” text inside EditText & TextViews as you leave and reenter your app in the different ways described above.

Part IV

Implement a calculator App for Android. The GUI should look very similar to the one shown below. It of course should work like a real calculator. Submit via Hardcopy Screenshots of your working App. Also submit via Hardcopy your .java and xml source file(s).

