\*\*\*\*\*\*\*\*\*\*\*\*\*\* Homework Week 1 Day 3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Answer the following questions:

1. What are the major components in android?
   1. Activities
   2. Services
   3. Broadcast receivers
   4. Content providers
2. What are all the activity lifecycles and explain what each details?
   1. onCreate() -> Is the first step of the activity lifecycle. It is called when the activity is starting. Variables and methods should be initialized inside this methd.
   2. onStart() -> This method is executed after onCreate. Also comes after onRestart() when the activity is stopped and restarted.
   3. onResume() -> After this method is called the Activity can start interacting with the user. So if you have something fancy to show to the user (like animations) is better to show them here. It can be called after onRestoreInstanceState(Bundle), onRestart(), or onPause()
   4. onPause() -> This method is called when the activity is going to the background but it hasn’t been killed. This method is triggered for example when an activity is launched and comes in front of other.
   5. onStop() -> onStop() is triggered when your activity is no longer visible. After this, your activity might be destroyer or restarted.
   6. onDestoy() -> This method is called for the system make a final cleanup before getting rid of the activity. It might be called by someone calling the finish() method or by the system itself to free some space in memory.
   7. onRestart() -> This is called at the very end of the activity lifecycle. However it is not guaranteed that this method is going to be called.
3. Explain each step of the sprint in agile.
   1. For each day of the Agile process a standup meeting must be taken.
   2. The first step is the start of the sprint. There the team agrees on the duration of the sprint, the problems that need to be solved (stories) and how many story points are needed to complete the stories.
   3. After the start of sprint day, everyday there is a standup meeting where the each person on the team tells how are they performing in the solution to the story. And everyday is gonna be the same until the Grooming session.
   4. Then comes the grooming session. Here the team evaluates where they are in the execution of the stories. If they are on time, or if they are not gonna be able to deliver on time. If they aren’t, they stablish the new deadline with a new sprint.
   5. After the ok at the grooming session, there come more standup meetings until the pull request date, where the code is sent to a branch to be evaluated and tuned for the demo day.
   6. After the demo, the code is pulled to the main branch to routine evaluation and then it is pushed to production and the cycle starts again.
4. What is dalvik and ART?
   1. Dalvik is a virtual machine that runs Java code and Java applications. It takes compiled Java code converted into .dex files, reads them and execute them. Basically is a Java virtual machine optimized for mobiles. It runs better than a Java VM on limited hardware.
   2. ART is a new Android Runtime that Google introduced with Android 4.4 KitKat. The aim was for it to replace Dalvik. In a few words, ART has better performance than Dalvik in new devices. One of the differences with Dalvik, is that ART uses AOT compilation instead of JIT. ART takes the .dex files from the apk and compiled them before the app demands them, and with this, improving the performance and battery life of the device.
5. How is the android platform architecture designed?
   1. The Android platform is made by a stack of different layers of technology. The stack is as follows (from bottom to top):
      1. Linux kernel (Drivers like Audio or WiFi)
      2. Hardware Abstraction layer (A layer of interaction with Hardware like the camer or sensors)
      3. Native C/C++ libraries and the Android Runtime
      4. Java API Framework (View system/content providers/manager)
      5. System Apps (Dialer, email, etc.)