Announcements

1) Office hours would be offline.

2) Assignment-1 released next week.

Basics of Android Programming

Android framework has kept evolving since starting in 2008.

Till 2019 ⇒ Java

After 2019 ⇒ Kotlin ⇒ Where did it come from?

Reactive Programming

Kotlin ⇒ created by IntelliJ

⇓

2) Less verbose and less boilerplate ⇒ Need to have some other language.

2) Interoperability ⇒ Kotlin is still compatible/based on the same underlying VM's ⇒ desktop ⇒ JVM
Android ⇒ Dalvik

3) Supports multiple paradigms ⇒ Allows procedural programming

---

```
int main (void)    {
        :
```

:

}

Android app can have multiple entry points.

⇓

An app can request you to jump to a [specific part/screen] of another app.

⇓

Activity

An app consists of a number of activities.

⇓

Can be invoked from different locations depending on the requirement.

each activity corresponds to the content shown on a screen.

⇒ draws the user interface (UI) once invoked.

How to define an activity ?

Defined an abstract class called Activity in the Android framework itself.

onCreate() ⇒ onStart() ⇒ onResume()

onPause()

onCreate() ⇒ As soon as the activity is invoked; draws the UI shown before the actual content is ready.

onStart() ⇒ Shows the actual UI with content.

onResume() ⇒ Invoked whenever there is user interaction

onPause() ⇒ " " user moves to a diffrent app by switching or pressing back button.

onStop() ⇒ Invoked before stopping the execution.

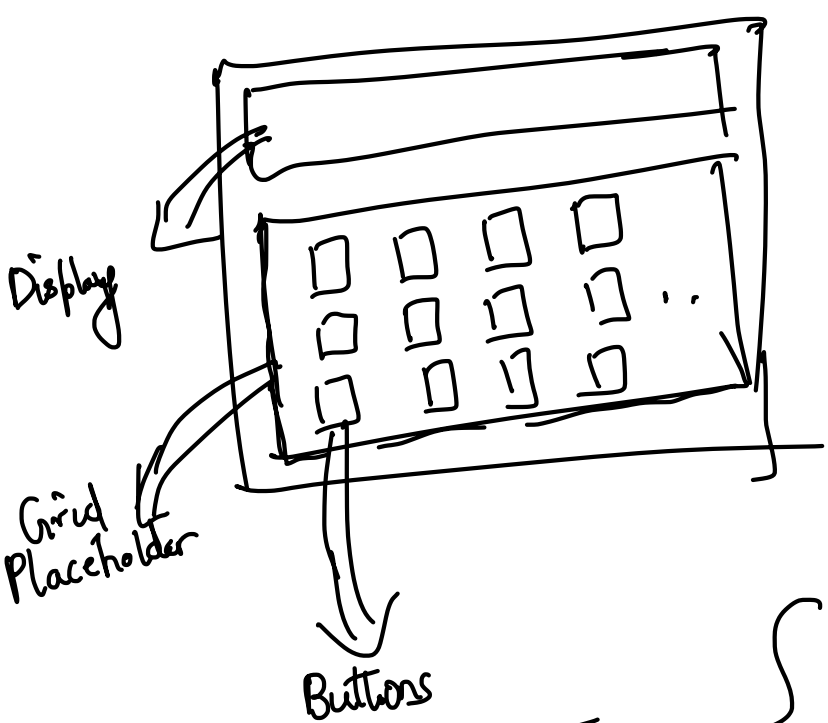
onRestart() ⇒ When the same activity is restarted or re-invoked.

Java and all previous languages; wherever UI programming was used; had to specify how to create UIs.

⇓

write a sequence of steps to generate the elements of the UI one-by-one.

Don't specify how to generate; instead ~~explain~~ describe only how the UI should look.



Composable functions are used for

such descriptions

Valid composable functions : ⇒ 1) Not use any local variable (arguments are fine)

2) Not change the values of global variables.

3) Annotated by @Composable.

4) Any other function called also has to be composable.

Activities need to be listed in a manifest file; Android Studio generates automatically.