# **Activity in Android**

An Activity can be thought of as a class that is typically associated with a screen, representing a part of an Android application. Each activity may contain user interface elements and enables the user to interact with the application. For example, in an email application, an activity could represent a screen displaying the inbox.

# **Basic Lifecycle of an Activity**

Activities follow a specific lifecycle with various states. In essence, an activity goes through the following stages:

1. ****onCreate():**** Called when the activity is first created. This is where the initialization and basic setup of the activity occur.
2. ****onStart():**** Called when the activity becomes visible. Typically used for UI updates and resource loading.
3. ****onResume():**** Called when the activity is ready to interact with the user. Features like animations and interactive elements are often initiated here.
4. ****onPause():****Called when the activity loses focus, such as when another activity comes to the foreground. Important tasks like pausing animations and releasing resources can be performed here.
5. ****onStop():**** Called when the activity is no longer visible. This is where you might release resources and stop unnecessary processes.
6. **onRestart()**: called when an activity that was previously stopped is about to start again. It is used to reinitialize components that were released during `onStop()`.
7. ****onDestroy():**** Called when the activity is being destroyed. All resources associated with the activity should be released at this stage.

This lifecycle is crucial for managing user interactions, transitioning between activities, and handling changes in the device state, such as screen rotation.

# **Defining and Launching an Activity**

Activities are typically defined using an XML file that specifies the layout and components of the user interface. The activity class then interacts with this XML file to manage the interface.

To launch an activity, an “Intent” is commonly used. An Intent is an object used to start an activity or transition to another.

Read Once for lifecycle understanding:

https://medium.com/androiddevelopers/the-android-lifecycle-cheat-sheet-part-i-single-activities-e49fd3d202ab