**1. Activity Lifecycle**

An **Activity** is a single screen in an app. Its **lifecycle** is managed by the **Android system**, and it transitions through different states.

**Activity Lifecycle Methods**

Android provides **callbacks** to handle different states:

| **Method** | **Description** |
| --- | --- |
| onCreate() | Called when the activity is created. Initialize views, data, and resources. |
| onStart() | Called when the activity becomes visible to the user. |
| onResume() | Called when the activity comes to the foreground and is interactive. |
| onPause() | Called when another activity is partially covering the current one. Save data. |
| onStop() | Called when the activity is no longer visible. Release resources. |
| onDestroy() | Called when the activity is being destroyed. Cleanup resources. |
| onRestart() | Called when an activity restarts after being stopped. |

**Activity Lifecycle Flow**

📌 **User opens an app → Activity goes through:**

sh

onCreate() → onStart() → onResume()

📌 **User switches to another app → Activity goes through:**

sh

onPause() → onStop()

📌 **User returns to the app → Activity goes through:**

sh

onRestart() → onStart() → onResume()

📌 **User closes the app → Activity goes through:**

sh

onPause() → onStop() → onDestroy()