Practical Session: Android and iOS app lifecycle

Name :- P.A.G.Rajapaksha
Index No :- 17001366

1.

- **onCreate()**
  This callback function executes when the system first creates the activity.In here fetching data from databases to be shown in UI, instantiating scope variables are performed. savedInstanceState parameter is received in the function. Declaring userInterface , defining member variables, and UI configurations are also performed here. After finishing executing onCreate() method then it will jump to onStart() or onResume() methods. Large functionalities should not be placed in this function

- **onStart()**
  This callback function makes the activity visible to the user. Here the activity will become interactive to work. UI maintaining codes are placed inside this function. This is a quickly executed function and large codes should not be included in here. After executing onStart() method then it will jump into onResume() method.

- **onResume()**
  Activity comes to the foreground in onResume() method. This is the state where the app interacts with the user. This activity will be mostly active until another app or process comes active(Eg:- Phone call). When an interruptive event occurs, then it will jump into the onPause() method. If the activity again resumed then the onResume() will be called.

- **onPause()**
  This is executed when the user leaves the activity. If the user opens another as a multi window this app will become onPause(). Only foreground activities will be paused in here. onPause() method is also used to release system resources.

- **onStop()**
  When the app is no longer visible to the user, then onStop() method will
  be executed. All the resources that are not needed are released here.

- **onDestroy()**
  This is the final lifecycle callback that an activity can receive. This method is called when the activity is destroyed. This callback will release all the resources that have not been released yet.

- **onRestart()**
  After executing the onStop() if the activity is started again, onRestart() callback will be executed. Activity will be displayed to the user and then onStart() and onResume() methods will be called.

2.

- **Not Running state :**

  The app has not started or been stopped.

- **Inactive state:**
  The app is entering the foreground state, but cannot process the event.

- **Active state:**
  The app enters the foreground state and can process event

- **Background state :**
  The app goes into the background, and if there is executable code, it will execute, and if there is no executable code or the execution is complete, the application will be suspended immediately.

- **Suspended state** :
  the suspended application goes into a frozen state, unable to execute code, and terminate if the system does not have enough memory.

3.

● iOS not running state is similar to android not running state.

● iOS has active and inactive states for foreground and android has onCreate(),onStart(), onResume(), onPause() callback methods.

● iOS has a background state for background apps and similarly android has onStop() callback function for it.

● Suspend state of iOS lifecycle is similar with the onDestroy() callback method in Android