**1.App Delegate and Scene Delegate Life Cycle Methods:**

1. App Launch

App delegate

- application(\_:willFinishLaunchingWithOptions:) - application(\_:didFinishLaunchingWithOptions:)

-scene(\_:willConnectTo:options)

App delegate is called when app is and finishes launching and scene delegate is called when connecting with apps

b. App Background (Press iPhone home button)

- applicationDidEnterBackground(\_:) - applicationWillResignActive(\_:)

- sceneWillResignActive(\_:) - sceneDidEnterBackground(\_:)

c,Phone Locked (Lock Phone using simulator lock button)

sceneDidEnterBackground(\_:)

- App goes into background, and the methods of app background are invoked.

d. Simulate Memory Warning

- applicationDidRecieveMemoryWarning(\_:)

this method helps us to free up the resources and optimize memory usage

e. App Kill

- applicationWillTerminate(\_:)

The app delegate methods stop working

**2.UIViewController Life Cycle Methods:**

a. App Launch

- loadView

- viewWillAppear(\_:) - viewDidAppear(\_:)

view hierarchy is loaded into the memory and then the views from out app our added to view hierarchy

b. App Background (Press iPhone home button)

- viewWillDisappear(\_:) - viewDidDisappear(\_:)

When app is about to transition from active state to inactive state and hence views from our app are removed from the view hierarchy indicating that app is in background

c. Phone Locked (Lock Phone using simulator lock button)

- App goes into the background, and views from app are removed from view hirarchy meaning no longer being used in the memory

d. Simulate Memory Warning

- didReceiveMemoryWarning( )

view controller is indicated to release any unnecessary resources to free up memory

This is done by developers to test memory management

e. App Kill

- - viewWillDisappear(\_:) - viewDidDisappear(\_:)

The app and all its methods get terminated