1 Ans :-

a. App Launch

App Delegate Methods:

1. application(_:willFinishLaunchingWithOptions:) - Called when the app is about to finish launching.
2. application(_:didFinishLaunchingWithOptions:) - Called when the app has finished launching.

Scene Delegate Methods:

1. scene(_:willConnectTo:options:) - Called when a scene is about to be connected to the app.
2. sceneDidBecomeActive - Called when the scene has moved from an inactive state to an active state.
3. sceneWillEnterForeground - Called as the scene transitions from the background to the foreground.

b. App Background (Press iPhone Home Button)

App Delegate Methods:

1. applicationWillResignActive - Called when the app is about to move from active to inactive state.
2. applicationDidEnterBackground - Called when the app has entered the background.

Scene Delegate Methods:

1. sceneWillResignActive - Called when the scene will move from an active state to an inactive state.
2. sceneDidEnterBackground - Called as the scene transitions from the foreground to the background.

c. Phone Locked (Lock Phone using Simulator Lock Button)

App Delegate Methods:

1. applicationWillResignActive - Called when the app is about to move from active to inactive state.

Scene Delegate Methods:

1. sceneWillResignActive - Called when the scene will move from an active state to an inactive state.

d. Simulate Memory Warning (Simulator option -> Debug -> Simulate memory warning)

App Delegate Methods:

1. applicationDidReceiveMemoryWarning - Called when the app receives a memory warning.

Scene Delegate Methods:

1. sceneDidReceiveMemoryWarning - Called when the scene receives a memory warning.

e. App Kill

App Delegate Methods:

1. applicationWillTerminate - Called when the app is about to terminate.

Scene Delegate Methods:

There is no direct method for scene delegate related to app termination, but the scene will be in an inactive state and subsequently removed.

2 Ans :

a. App Launch

UIViewController Methods:

1. init(coder:) or init(nibName:bundle:) - Called when the view controller is being initialized.
2. loadView() - Called when the view controller's view is being created.
3. viewDidLoad() - Called after the view has been loaded into memory.
4. viewWillAppear - Called just before the view is added to the app's view hierarchy.
5. viewDidAppear - Called after the view has been added to the app's view hierarchy.

b. App Background (Press iPhone Home Button)

UIViewController Methods:

1. viewWillDisappear - Called just before the view is removed from the app's view hierarchy.
2. viewDidDisappear - Called after the view has been removed from the app's view hierarchy.

c. Phone Locked (Lock Phone using Simulator Lock Button)

UIViewController Methods:

1. viewWillDisappear - Called just before the view is removed from the app's view hierarchy.
2. viewDidDisappear- Called after the view has been removed from the app's view hierarchy.

d. Simulate Memory Warning (Simulator option -> Debug -> Simulate memory warning)

UIViewController Methods:

1. didReceiveMemoryWarning- Called when the app receives a memory warning. It's an opportunity to release any cached data, images, etc., that aren't in use.

e. App Kill

There are no specific UIViewController lifecycle methods directly related to the app being killed. However, before the app is terminated, the following methods would typically be invoked:

UIViewController Methods:

1. viewWillDisappear- Called just before the view is removed from the app's view hierarchy.
2. viewDidDisappear- Called after the view has been removed from the app's view hierarchy.