

# Introduction to iOS

## Case Study

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### 1.Explain what is Xcode?

**Xcode** is an integrated development environment (IDE) for macOS containing a suite of software development tools developed by Apple for developing software for macOS, iOS, watchOS, and tvOS. First released in 2003, the latest stable release is version 10.1 and is available via the Mac App Store free of charge for macOS High Sierra and macOS Mojave users. Registered developers can download preview releases and prior versions of the suite through the Apple Developer website.

### 2. Explain how you can add frameworks in Xcode project?

i>Select the project file from the project navigator on the left side of the project window.

ii>Select the target for where you want to add frameworks in the project settings editor.

iii>Select the “Build Phases” tab, and click the small triangle next to “Link Binary With Libraries” to view all of the frameworks in your application.

iv>To Add frameworks, click the “+” below the list of frameworks.

v>To select multiple frameworks, press and hold the command key while using the mouse to click the desired frameworks.

## Explain what is the difference between Xcode, Cocoa and Objective C?

- Xcode is the integrated development environment (IDE)—the application—that developers use to write software for iOS and/or OS X. It includes the editor, the build system (determining what to build to produce the desired target), and quite a few other things.
- Objective-C is the main language that developers write such software in. They may write bits of it in pure C, use C++ or combine it with Objective-C (producing Objective-C++), or write some or all of the program in another language entirely, such as MacRuby, Java (with j2objc), or C# (with MonoTouch).
- Cocoa and Cocoa Touch are application frameworks. Each one is a suite of many individual frameworks

## What is the short cut to open the “Code Snippet Library” in Xcode?

Xcode Code Snippet Library is accessible from the second tab beside the Object Library from where we grab all the UI components to drag and drop on Storyboard.

The short cut command is shift+command+l.

## Mention what are the build phases available in Xcode?

- Select the project from the project navigator to open the project editor.
- Select the target from the project editor.
- Click the Build Phases button at the top of the project editor. You have to do this to enable the build phase menu items.

After clicking the Build Phases button at the top of the project editor I can add build phases by clicking the Add button in the project editor or choosing Editor > Add Build Phase.

## Explain how app delegate is declared by Xcode project templates?

App delegate is declared as a subclass of UIResponder by Xcode project templates.

## Explain how you define variables in Swift language?

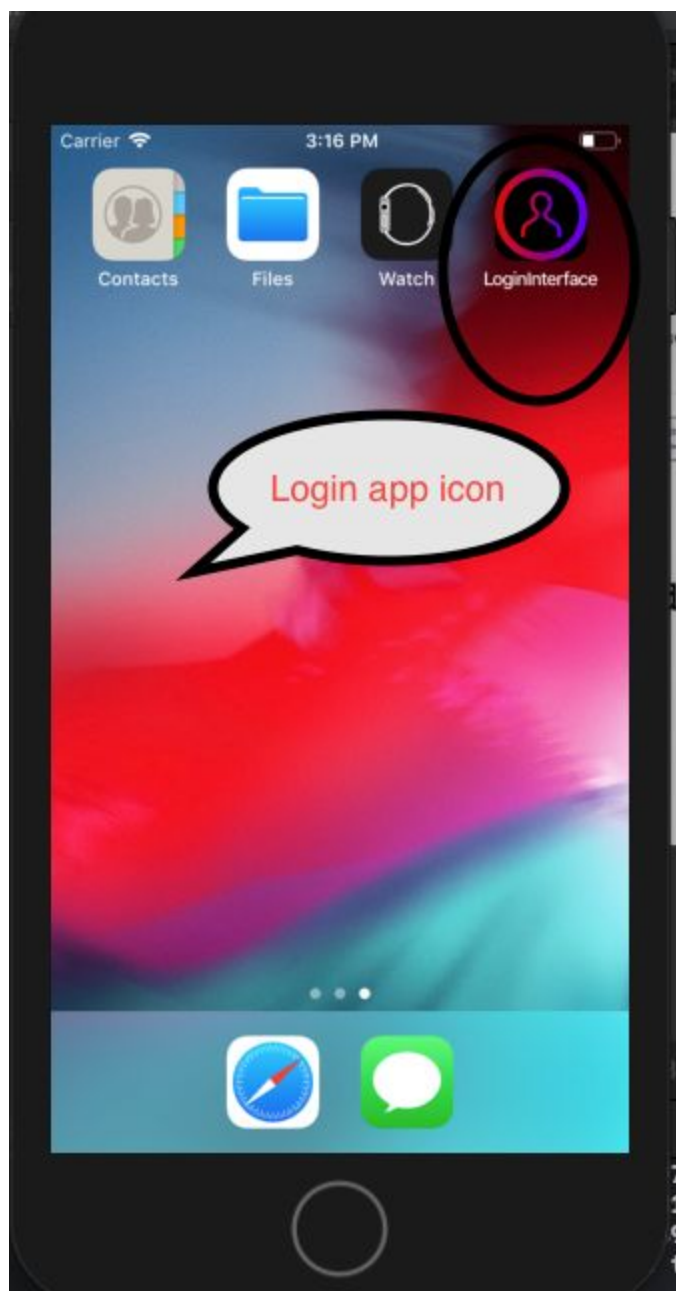
```
var a:Int  
var a:Double  
var a:String  
var a:Boolean  
var a:Float  
let a= 10
```

By declaring var we mean that they are variables and can be changed afterwards and by using the colon mark we specify how we specify the datatype. But by using let it means that they are constant.

## What is interface builder?

Interface Builder is a software development application for Apple's macOS operating system. It is part of Xcode (formerly Project Builder), the Apple Developer developers toolset. Interface Builder allows Cocoa and Carbon developers to create interfaces for applications using a graphical user interface. Interface Builder is an important part of your Swift programming toolset. These two components, the editor and Interface Builder, are both parts of Xcode, and together, allow you to easily and rapidly develop both iOS and OSX graphical programs.

## Add App icon to your app.



List devices and their resolutions, screen size has iOS as their OS.

- 38mm Apple Watch: 272x340 (326 ppi)
- 42mm Apple Watch: 312x390 (326 ppi)
- 2.5-inch iPod Nano: 240x432 (202 ppi)
- 4-inch iPod Touch: 1136x640 (326 ppi)
- 4-inch iPhone SE: 1136-by-640-pixel (326 ppi)
- 4.7-inch iPhone 6 & 6S: 1334-by-750-pixel (326 ppi)
- 5.5-inch iPhone 6 Plus & 6S Plus: 1920x1080 (401 ppi)
- 7.9-inch iPad Mini 2: 2048x1536 (326 ppi)
- 7.9-inch iPad Mini 4: 2048x1536 (326 ppi)
- 9.7-inch iPad Air 2: 2048x1536 (264 ppi)
- 9.7-inch iPad Pro: 2048x1536 (264 ppi)
- 12.9-inch iPad Pro: 2732x2048 (264 ppi)
- 11.6-inch MacBook Air: 1366x768 (135 ppi)
- 12-inch MacBook with Retina display: 2304x1440 (226 ppi)
- 13.3-inch MacBook Air: 1440x900 (127 ppi)
- 13.3-inch MacBook Pro: 1280x800 (113 ppi)
- 13.3-inch MacBook Pro with Retina display: 2560x1600 (227 ppi)
- 15.4-inch MacBook Pro with Retina display: 2880x1800 (220 ppi)
- 21.5-inch iMac: 1920x1080 (102 ppi)
- 21.5-inch iMac with Retina 4K display: 4096x2304 (219 ppi)
- 27-inch iMac with Retina 5K display: 5120x2880 (218 ppi)
- 27-inch Apple Thunderbolt display: 2560x1440 (109 ppi)

