

1.What is UI Kit?

UI kits typically include the user interface components that convey meaning and provide functionality to users – think buttons, widgets, checkboxes, progress bars, and navigation buttons.

2.What is the difference between Cocoa and Cocoa Touch?

Both Cocoa and Cocoa Touch include the Objective-C runtime and two core frameworks: Cocoa, which includes the Foundation and AppKit frameworks, is used for developing applications that run on OS X. Cocoa Touch, which includes Foundation and UIKit frameworks, is used for developing applications that run on iOS.

3. What is iOS in swift?

Swift is a compiled and new programming language evolved by Apple Inc in June 2014 in order to develop apps for mobile and desktop. This language works for watchOS, macOS, iOS, and tvOS.

4. Swift vs Objective -C

Swift	Objective-C
object-oriented and functional programing language	class-based object-oriented programing language
supports dynamic libraries	does not support dynamic libraries
Supports Tuples	does not support Tuples
Semicolons are not required	semicolons are required
Swift is an open source programing language	Objective-C is limited to apple, and it's not an open source language
We have to use “let” keyword to declare for constant and “var” keyword to declare for a variable	we have to declare the variable as “NSString” and constant as “int”.
we can define classes in a single file (.swift),	we create separate interface (.h) files for classes and implementation (.m) files for classes.

5. What are the advantages of using swift?

- Open source language
- Easy to learn and maintain
- supported by multiple devices
- suports dynamic libraries
- optional types
- closures

6. What are the most important features of swift?

- More impressive structs and enums
- Protocol oriented
- Optional Types
- Type Safety and Type inference language
- Not required to use semicolons
- Enforced initializers
- Safe by default
- Less code, fewer files
- Forced Unwrapping
- Tuples
- Closures
- Much faster when compared to other languages.

7. Explain the common execution states for a swift iOS App (iOS Application Lifecycle)

Not Running : This is a simple state in which our app is not launched and the application is completely switched off.

Inactive: This state is just a transitional state. Inactive state means our application is running in the background but is not able to receive events.

Active: Active state is the main execution state, where our app is running in the background and is able to receive events.

Background: This is the state where our App is running in the background and still is able to execute the code in the background.

Suspended: This state means that our app running is in the background state and the system suspends this app and the application cannot execute any code.

8. What is Init() in swift?

Initialization is a process of preparing an instance of an enumeration, structure or class for use.

Initializers are also called to create a new instance of a particular type. An initializer is an instance method with no parameters. Using initializer, we write the init keyword.

9. Difference B/w Let and Var?

Let : Let keyword is immutable, it's used to declare a constant variable, and the constant variable cannot be changed once they are initialized. We cannot change the value of age, you can declare the constant value of it only once using the let keyword.

Var : Var keyword is mutable, and is used to declare a variant variable. These variant variables can change the run time.

10. Which JSON framework supported by iOS?

SBJson framework is supported by iOS. SBJson framework provides additional control and a flexible API which makes JSON handling easier. It is a well and highly flexible framework that supports the flexible functioning of APIs.

11. What is Plist in iOS?

LIST stands for Property List. PLIST is basically a dictionary of value and keys that can be stored in our file system with a .plist file extension. The property list is used as a portable and lightweight means to store a lesser amount of data. They are normally written in XML.

12. What is Dictionary?

Dictionaries are an association of an unordered collection of key-value pairs. Each value is associated with a unique key.

13. What is protocols in swift?

A protocol defines a blueprint of properties, methods, and other requirements that are suitable for a particular task. the protocol is an interface that describes some methods and properties. The protocol is just described as the properties or methods skeleton instead of implementation. Properties and methods implementation can be done by defining enumerations, functions, and classes.

Protocols are declared after the structure, enumeration or class type names. Single and multiple protocol declaration can be possible. Multiple protocols are separated by commas.

14. What is delegate is swift?

Delegate is a design pattern, which is used to call predefined functions. Delegates have one to one relationship and one to one communication.

15. What is the use of Double question mark “??” In swift?

The double question mark “??” is a nil-coalescing operator, it is mainly a shorthand for the ternary conditional operator where we used to test for nil. A double question mark is also used to provide a default value for a variable. This exactly does the common thing, if stringVar is not nil then it is returned, otherwise the “default string” is returned.

16. What is Tuple?

A tuple is a group of different values in a single compound value In swift, a tuple can consist of multiple different types. It can support two values i.e. one of integer type, and the other of a string type. It is a legal command.

For Example:

- Let ImplementationError = (501, “Not implemented”).
- Let person = (name: “Ajay” , age: 34)

17. What is difference b/w array and NSArray?

An array can hold only one type of data, whereas NSArray can hold different types of data.

An array is a value type, whereas NSArray is an immutable reference type.

18. What is the difference b/w class and struct?

Classes are reference types, whereas structs are value types.

19. What are the best way of achieving concurrency iOS?

Dispatch queues

Threads

Operation queue

20. How to pass the data between view controllers?

1. Using Segue, in prepareForSegue method (Forward).

2. Setting the variable directly (Backward).

3. Using Delegate (Backward).

21. Who calls the main function of our app during the app launch cycle?

The main thread calls the main function of our app. During the app launching cycle, the system will create a main thread for the app and call the app main function on that main thread.

22. Which is the superclass of all the view controller objects?

UIViewController class is the superclass of all the view controller objects. All the standard system behavior is provided by the UIViewController class.

23. What is the difference between Synchronous & Asynchronous task?

Synchronous: waits until the task have completed.

Asynchronous: completes a task in the background and can notify you when complete.

24. What is singleton?

singleton is a class, create single instance. This instance shared across other classes.

25. What is design pattern?

Design patterns are typical solutions to common problems in software design. Each pattern is like a blueprint that you can customize to solve a particular design problem in your code.

26. Design pattern categories?

“creational,” “structural,” and “behavioral.”

27. What is iOS notification?

Notification Center is a feature in **iOS** and **macOS** that provides an overview of alerts from applications. It displays **notifications** until the user completes an associated action, rather than requiring instant resolution.

28. What is the difference between local notification and push notification?

The essential **difference between local notifications and push notifications** is simple: **Local notifications** are scheduled by an app locally and are delivered by the same device. **Push notifications** are sent by a **remote** server (its provider) which sends these **notifications** to devices on which the app is installed.

29. What is plist?

A property list, commonly abbreviated as **plist**, is an XML file that contains basic key-value data. You can use a **plist** in your **iOS** apps as a simple key-value data store.

30. What is API?

API stands for Application Programming Interface. It is a programmatic way to be able to access functions and data of other apps. ... So **API's** allows you to access a huge amount of data and built apps that rely on existing systems.

31. What is extension in Swift?

Extensions in Swift are super powerful, because they help you organize your code better. You use an **extension** to add new functionality to an existing class.

32. What is DispatchQueue in Swift?

An object that manages the execution of tasks serially or concurrently on your app's main thread or on a background thread.

33. What is concurrency?

Concurrency is a condition in a program where two or more tasks are defined independently, and each can execute independent of the other, even if the other is also executing at the same time.

34. Weak vs Strong?

Weak does not increase the retain count, don't protect the object from being deallocated by ARC. On deallocation, weak objects will be set to nil. All weak references are optional. Creates Setters and getters.

Strong increase the retain count by one. Protect the object from being deallocated by ARC. Create setters and getters. Object will be mutable.

35. what is Automatic Reference Counting(ARC)?

ARC is apples way of handling memory management. What it does is, For each object it keeps a count of how many strong references are pointing to that object. As long as there is strong reference for a object, the object will stay in memory. How to remove the references in memory, we need to make those strong references to weak references.

36. What is optional(?)?

optional allows you to write flexible and more safe code. It can be nil or some value.

37. What is double question mark(??)

It provides default value for variable which can be nil. It says the value is nil then use default value.

38. What is optional chaining?

Optional chaining is a **Swift** feature that allows execution of a statement to stop and return nil at any point.

39. What is optional binding?

Other than forced unwrapping, **optional binding** is a simpler and recommended way to unwrap an **optional**. You use **optional binding** to check if the **optional** contains a value or not. If it does contain a value, unwrap it and put it into a temporary constant or variable.

40. Class vs Struct?

class is reference type, means any changes in one reference, will effect other reference as well.

struct is value type, means any changes in one value, will not effect the others.

41. What is enum?

An **enumeration defines** a common type for a group of related values and enables you to work with those values in a type-safe way within your code. Enumerations in **Swift** are much more flexible, and do not have to provide a value for each case of the **enumeration**.

42. What is Guard?

Guard doesn't allow any code is condition is not true, it provides early exit.

43. What is closures?

closures are self-contained blocks of functionality the can be passed

around and used in code anywhere. It is headless functions. closures are functions without “Func” keyword and the function name.

44. What is lazy in swift?

It is a technique for delaying the creation of an object. When programming for **iOS**, this is helpful to make sure you utilize only the memory you need when you need it.

45. What is Grand Central Dispatch(GCD)?

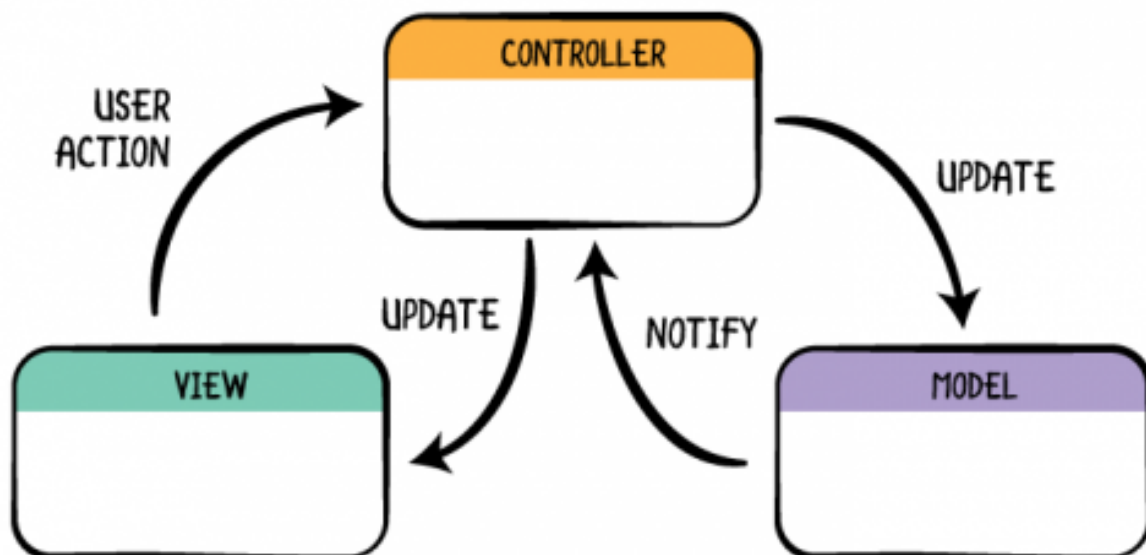
We can manage multi thread on **iOS** and **MacOS** by this API. ITs can manage synchronous and asynchronous queue of task . GCD have dispatch queue for manage all queue one by one in FIFO order. GCD provide two type of queue and these are serial queue and concurrent queue .Both queue can run synchronously or asynchronously.

46. Codable and Decodable in swift 4?

Codable protocol is new protocol introduce by apple in swift 4 and it can provide Encodable and decodable built-in feature. It will make JSON parsing easier.

47. Define MVC?

In MVC, View send event to controller, Then the controller send request to model for data and perform business logic if required. Model notifies controller in case of any data changes and controlled send data to view to present. In MVC codes are difficult to manage.



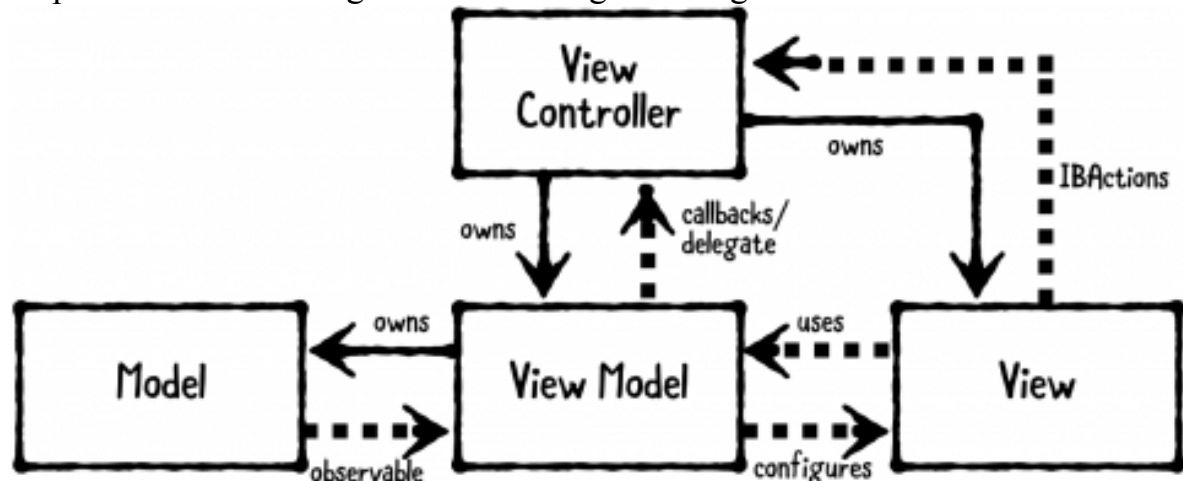
48. Define MVVM?

Model - Model is basically the data model or entities that your application has. They are simply structs or classes with simple associated

properties.

View - The view is the visual element that gets displayed. All the UI components on an app screen are views.

ViewModel - View Models receive UI events and perform business logic and provides the output to be displayed on the UI. This is the component that is responsible for handling the business logic driving the view.



49. Define singleton pattern in swift?

This is very simple, common and easy to use in your project. It's initialize your class instance single time only with static property and it will share your class instance globally.

50. Define coredata?

Core Data is one of the most popular frameworks provided by **Apple** for **iOS** and **macOS** apps. **Core data** is used to manage the model layer object in our application. You can treat **Core Data** as a framework to save, track, modify and filter the data within **iOS** apps, however, **Core Data** is not a Database.

51. Define API?

API stands for Application Programming Interface. It is a programmatic way to be able to access functions and data of other apps. (Someone write the entire code and we can use it in our app Using API)

Ex: use google signing in our app using API Key

52. library and framework?

Library is collection of codes, some functions or documents are pack together and used when you need.

Framework in collection of libraries

Difference:

"Inversion of Control". When you call a method from a **library**, you are in control. But **with a framework**, the control is inverted: the **framework** calls you. A **library** is just a collection of class definitions.

53. Define JSON?

JSON is the most commonly used format to send and receive data from the web services. The data is in the form of key-value pairs.

54. Define pagination?

Pagination is a common technique for many public APIs. Instead of sending you all the data they have, they send a limited amount; when you need more, you make another request. This saves server resources and provides a faster response.

55. Define NSCache?

If the system does encounter memory pressure **NSCache** will automatically start to remove items without you knowing about it, which means you won't get a memory warning unless even more RAM needs to be cleared. It will also remove items intelligently, trying to keep as much cached as possible.

56. Public and Private?

public entities were accessible from any file that imports the module (a framework or library)

private entities were only accessible from within the source file where they were defined

57. Define Debugging?

Debugging is the routine process of locating and removing computer **program** bugs, errors or abnormalities, which is methodically handled by **software** programmers via **debugging** tools.

58. Define Breakpoint?

Stop the code from keeping executed further, on the line stay and see how the line done so-far, we can check all the values are correct.

59. Define SQLite?

SQLite is a software library that provides a relational database management system. The lite in **SQLite** means light weight in terms of setup, database administration, and required resource. **SQLite** has the following noticeable features: self-contained, serverless, zero-configuration, transactional.

60. What is initialization in Swift?

Initialization is the process of preparing an instance of a class, structure, or enumeration for use. This process involves setting an initial value for each stored property on that instance and performing any other setup or **initialization** that is required before the new instance is ready for use.

61. Define memory leak?

A memory leak is a portion of memory that is occupied forever and never used again. It is garbage that takes space and causes problems. Memory that was allocated at some point, but was never released and is no longer referenced by your app. Since there are no references to it, there's now no way to release it and the memory can't be used again.

62. Define Atomic and non atomic?

Atomic means only one thread accesses the variable (static type).
Nonatomic means multiple threads access the variable (dynamic type).
Nonatomic is thread-unsafe, but it is fast.

62. Define Autolayout?

Auto Layout is a constraint-based layout system. It allows developers to create an adaptive interface that responds appropriately to changes in screen size and device orientation.

63. Define NSNotification centre?

push or local notifications where you are notifying a user of any content you would like them to receive, **NSNotificationCenter** allows us to send and receive information between classes and/or structs based on an action that has occurred in our app.

65. Define Memorymanagement?

Memory management is based on **reference-counting**. Each object defined in Swift has a implicit variable called a **reference count**. This reference count is increased whenever an object is referenced somewhere, and so decreased when the object is not referenced anymore.

66. Define GCD?

GCD (Grand Central Dispatch) is a low-level API for managing concurrent operations. It will make your application smooth and more responsive. Also helps for improving application performance. Sometimes we are trying to perform multiple tasks at the same time that time most of the developer-facing application hang or freezing issue this is the common issue. That's why we are using GCD to manage multiple tasks at the same time.

67. Define DispatchQueue?

An object that manages the execution of tasks serially or concurrently on your app's main thread or on a background thread.

68. What is synchronous vs asynchronous in GCD?

"**Synchronous**" essentially means "in order." Basically, when you do a **synchronous** operation, everything that comes later has to wait for the operation to finish before they can start. Conversely, "**asynchronous**" more or less means "not in order."