InterView Question List : Revised on 31 May 2020

1. What is the difference betweeen Class and Structure ?

Answer : Class is of reference type, If its value and reflect on other too.

Structure is value type, It copies the value, If updating one value it will not reflect on other one.

Class Allows Inheritance, Structure won’t.

Link: <https://www.youtube.com/watch?v=ObIxxHy8yY8>

2. What is difference between Synchronous and Asynchronous ?

Answer : Synchronous means that thread needs to wait for complete execution.

In Asynchronous, The thread doesn’t needs to wait for completion.

Long running tasks need to done on Asynchronous way.

3. What is Final Keyword in Swift ?

Answer : Final is a class modifier, It prevents class from inheriting and overridden.

We can also prevent a method, property or subscript from being overridden.

4. Deep vs Shallow Copy ?

Answer : Copies of objects can be shallow or deep.

With a deep copy, any object pointed to by the source is copied and the copy is pointed to by the destination. So two complete copies are created.

With Shallow copy, any object pointed to by the source are also pointed by destination. So only one copy is created.

5. What is Lazy Keyword in Swift ?

Answer : Lazy would be introduced with property, The memory gets allocated once its access/use. A lazy stored property is calculated only when it’s accessed. It will always var not let.

6. What is Weak in Swift ?

Answer : A weak reference is just a pointer to an object that doesn’t protect the object from deallocation.

7. Difference Between function and closure in swift ?

Answer :

FUNCTION

\* has a name

\* has func keyword

\* has no in keyword

CLOSURE

\* has no name

\* has no func keyword

\* has in keyword

8. What is the use of Targets in Xcode ?

Answer : Targets are used for handling Production and Development builds.

9. Can we localised UILABEL without StoryBoard ?

Answer : Yes, With the help of ObjectID we can do that.

10. What is Augmented Reality ?

Answer : AR is the mix of real and virtual worlds.

11. What is Virtual Reality ?

Answer : VR is the complete virtual world.

12. Difference Between Frame and Bounds in iOS?

Answer : The **bounds** of an UIView is the rectangle, expressed as a location (x,y) and size (width,height) relative to its own coordinate system (0,0). The **frame** of an UIView is the rectangle, expressed as a location (x,y) and size (width,height) relative to the superview it is contained within.

In transform the frame will change.

13. What is Type Inference ?

Answer : It enables a compiler to deduce the type of particular expression automatically when it compiles your code, simply by examining the values you provide.

14. What is tuples ?

Answer : Tuple in swift is a neat way to store multiples values in a single value. So tuple is basically a way to represent a collection of values that are closely linked to each other.

15. Difference between filePrivate and Private in Swift ?

Answer : If method is filePrivate then it accessible in extension and new class within same file.

But Private then it can accesssible in the extension of same file, but not with class of same file.

16. What is deinit and how it work ?

Answer : It’s not required to implement this method, but you can use this for clean up before object deallocation.

Classes have deinit and struct don’t have deinit.

Link: <https://www.hackingwithswift.com/sixty/8/6/deinitializers>

17. What is enum in swift ?

Answer : An enumeration is a data type consisting of a set of named values, called members. Enumerations in swift are much more flexible, and do not have to provide a value for each case of the enumeration.

18. What is the basic use of extension in swift ?

Answer :

1. Protocol Conformance
2. Preserving Intializer
3. Code Separation
4. Nested Types(Enum can be declare inside Extension)

19. What is Internal Keyword in Swift ?

Answer : Internal access enables entities to be used within any source file from their defining module. But not in any source file outside of that module. Internal is default access specifier.

20. Keyword Fallthrough ?

Answer : It used in a case block of a switch statement. A Fallthrough statement causes program statement of execution to continue from one case in a switch statement.

21. Convenience Intializer in Swift ?

Answer : Convenience Intializer are secondary intializer used for calling Designated intializer.

22. What is @dynamic in swift ?

Answer : @dynamic just tells compiler that the getter and setter are implemented not by the class itself but somewhere else (Like the superclass or provided at rumtime).

23. What is dynamic in swift ?

Answer : Dynamic dispatch, It simply means that objective-c runtime decides at runtime which implementation a particular method or function it need to invoke. For example, if a subclass overrides a method of its superclass, dynamic dispatch figures out which implementation of the method needs to be invoked, that of the subclass or that of the parent class. This is a very powerful concept.

24. What is inout in Swift ?

Answer : inout means that modifying the local variable will also modify the passed-in parameters. Without it, the passed-in parameters will remain the same value.

25. What is mutating in Swift ?

Answer : The properties of value types cannot be modified within its instance methods by default. In order to modify the properties of a value type, you have to use the **mutating keyword** in the instance method. With this keyword, your method can then have the ability to mutate the values of the properties and write it back to the original structure when the method implementation ends.

Link: <https://www.hackingwithswift.com/sixty/7/5/mutating-methods>

26. Please explain Encapsulation with example ?

Answer : Encapsulation is one of the most important OOPS design principles. It hides the internal states and functionality of objects. You can achieve this by using the access control features of swift.

27. Please explain Inheritance in Swift ?

Answer : The concept of inheritance brings something of a real-world view to programming. It allows a class to be defined that has a certain set of characteristics and then other classes to be created which are derived from that class. Inheritance does not supports Multiple Inheritance.

28. Please explain Abstraction in Swift ?

Answer : Abstraction is hiding background details, showing essential details to the users.One function doesn’t concern what written in other function.

29. Difference Between Method Overriding and Overloading ?

Answer : **Overloading** occurs when two or more **methods** in one class have the same **method** name but **different** parameters. **Overriding** means having two **methods** with the same **method** name and parameters (i.e., **method** signature). One of the **methods** is **in the** parent class and the other is **in the** child class.

30. What is Optional Chaining in Swift ?

Description : Optional chaining is the way by which we try to retrieve a values from a chain of optional values.

Link: <https://www.hackingwithswift.com/sixty/10/7/optional-chaining>

31. What is Optional binding in Swift ?

Description : 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.

32. What is made up of NSError object ?

Description : There are three parts of NSError object a domain , an error code, and a userinfo dictionary. The domain is a string that identifies what categories of errors in coming form.

33. Why don’t we use strong for enum property in Objective C?

Description : Because enums aren’t objects, so we don’t specify strong or weak here.

34. Why do we use synchronized ?

Description : Synchronized guarantees that only one thread can be executing that code in the block at any given time.

35. What is Singleton Pattern ?

Description : The Singleton design pattern ensures that only one instance exists for a given class and that there’s a global access point to that instance. It usually uses lazy loading to create the single instance when it’s needed the first time.

36. What is Decorator Design Pattern ?

Description : The Decorator pattern dynamically adds behaviours and responsibilities to an object without modifying its code. It’s an alternative to subclassing where you modify a class’s behaviour by wrapping it with another object.

In objective-C there are two very common implementations of this pattern : Category and Delegation.

In Swift there are also two very common i implementations of this pattern :

Extensions and Delegation.

37. What is Adapter Pattern ?

Description : An adapter allows classes with compatible interfaces to work together. It wraps itself around an object and exposes a standard interface to interact with that object.

38. What is Observer Pattern ?

Description : In the observer pattern, one object notifies other objects of any state changes.

Cocoa implements the observer pattern in two ways : Notifications and Key-Value Observing(KVO).

39. What is Memento Pattern ?

Description : In Memento Pattern saves your stuff somewhere. Later on, this externalised state can be restored without violating encapsulation; that is, private data remains private. One of Apple’s specialised implementations of the Memento pattern is archiving other hand iOS uses the Memento pattern as part of State Restoration.

40. Explain MVC ?

Description : Business Logic is need to written in Model Class.

View Controller needs to have to user actions and actions performed on Actions.

41. How would you avoid retain cycles when using closures/blocks in swift ?

Description : Closures can cause retain cycles because they have a strong reference to the object that uses them.

42. What is Core Data Stack ?

Description : (<https://www.youtube.com/watch?v=sgG6FubOC6M>)

1. A managed Object Model (Defines the data structure and their relationships)
2. A managed Object Context (Is like a notebook, It never automatically save and update UI)
3. A persistent Store Coordinator ()
4. A persistent Store Container

43. Difference between Objective-c and Swift ?

Description :

Swift is faster (Less execution time as unchanged files aren’t recompiled).

Swift is easier to read.

Swift is easier to maintain.(As contain only one file).

Swift is safer (As pointer is not present).

Swift is unified with Memory Management(In objective-c Core Graphics required ARC).

Swift Playgrounds encourages interactive Coding.

44. Difference between NSArray and Array ?

Description : Array is a struct, therefore it is a value type in swift.

NSArray is an immutable objective-c class therefore it is a reference type in swift and it is bridged to Array<AnyObject>. NSMutableArray is the mutable subclass of NSArray.

45. Difference between Beacons and iBeacons ?

Description :

Beacons : Are used to engage customers by sending out the messages, ads etc. It requires core location and BLE. (Developed by Google)

iBeacons : It is an Apple’s trademark that refers to the protocols, devices and uses of Bluetooth LE (Low Energy) to create user experiences.

46 : What is Higher Order Functions in Swift ?

Description : Higher order functions are simply functions that operate on other functions by either taking a function as an argument, or returning a function.

These methods use closures to allow us to pass in functionality that can then determine how we want the method to sort, map, filter or reduce an array of objects.

Link: <https://www.youtube.com/watch?v=fbYMaJciMZY>

47. What is generic feature in swift ?

Description : Swift 4 language provides ‘Generic’ features to write flexible and reusable functions and types. Generics are used to avoid duplication and to provide abstraction.

48. New Features available in Swift 5 ?

Description :

49. Difference between KVO and KVC ?

Description : [h](https://medium.com/@pleelaprasad/kvo-kvc-in-swift-12f77300c387)[t](https://medium.com/@pleelaprasad/kvo-kvc-in-swift-12f77300c387)[tps://medium.com/@pleelaprasad/kvo-kvc-in-swift-12f77300c387](https://medium.com/@pleelaprasad/kvo-kvc-in-swift-12f77300c387)

<https://www.youtube.com/watch?v=KcmIcr8bvOI>

50. Differnece between Any and Anyobject ?

Description :

AnyObject : It refers to any instance of a class, and is equivalent to id in Objective-C. It’s useful when you specifically want to work with a reference type, because it won’t allow any of Swift’s structs or enums to be used. AnyObject is also used when you want to restrict a protocol so that it can be used only with classes.

Any : It refers to any instance of a class, struct, or enum – literally anything at all. You’ll see this in Swift wherever types are unknown or are mixed in ways that can be meaningfully categorized.

Ideally you should avoid both Any and AnyObject in your code – it’s better to be more specific if you can be.

Link: <https://www.youtube.com/watch?v=WHET7tBCmcA>

51. Difference between Key and Keypath ?

Description :

Key : Simply Key means a single property, The one we want to set or get.

KeyPath : A KeyPath is formed with the dot syntax by following the sub strings. So it is not a single word/string.

52. What is App Thinning ?

Description : iOS 9 enables mobile app developers to decrease the size of their app on users mobile devices through app thinning. This involves using one or a combination of three processes, known as slicing, On-Demand Resources and BitCode.

53. What is Slicing ?

Description : It is the process of Apple optimising your app for a users’s device based on the device’s resolution and architecture. Slicing does not require BitCode.(Ex: only including @2x images on a 5s).

54. What is BitCode ?

Description : BitCode refers to the type of code : “LLVM BitCode” that is sent to iTunes Connect. This allows Apple to use certain calculations to re-optimise apps further (e.g: possibly downsize executable sizes). If Apple needs to alter your executable then they can do this without a new build being uploaded.

55. What is On-Demand Resources ?

Description : Apple introduced on-demand resources in iOS 9. It enables apps to load assets dynamically. You assign tags to some assets, then when you upload a build to the App Store, Apple hosts the tagged assets so that they are downloaded separately from the app. The app requests the assets when required, and can discard them when they are not needed anymore. This is a great way to save space on devices.

56. What is defer Statement ?

Description : The defer statement provides a clean way to handle these types of a situation by declaring a block of statements that will be executed when execution leaves the current scope. It’s almost like pushing the statements within the defer statement onto a stack for later execution.

Link: <https://www.youtube.com/watch?v=Bzy_y-LC6tw>

57. Difference between Didset and WillSet ?

Description :

willSet is executed before property is set.

didSet is executed after property is set.

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