

Synechron - May 2024

Introduction and Experience

1. Can you introduce yourself?
2. Can you provide an introduction and background regarding your technical experience?
3. Could you discuss the latest project you worked on, particularly concerning the ESPN sports app?
4. What kind of architectural pattern did you use in your projects?
5. Do you write test cases for your projects? If so, do you focus solely on business test cases or also include controller tests?

Architectural Patterns

6. How would you explain the MVVM (Model-View-ViewModel) architecture to someone who is unfamiliar with it?
7. How does the MVVM architecture contribute to improving code testability?
8. Which architectural pattern, VIPER or MVVM, do you think is better?
9. In terms of MVVM, how would you structure the model classes, view model classes, and controllers for the scenario described in question 21?
10. What is the VIPER architecture?

Swift and SwiftUI

11. What kind of architectural pattern did you use in your projects?
12. What differences do you perceive between Swift and SwiftUI? Also, what are your thoughts on Swift and UIKit?
13. What is the difference between `@StateObject` and `@ObservableObject`?
14. Can you use classes instead of structs in SwiftUI? If so, what are the differences, and why are structs commonly used in building views in SwiftUI?

15. In an MVVM project using Swift, where would you use a struct, and where would you use a class?
16. Can you explain the differences between State, ObservedObject, and Environment?

Programming Principles and Reusability

17. Have you encountered any drawbacks of using singleton classes in your projects?
18. Which principles do you typically follow in your projects, such as SOLID principles or others?
19. Can you describe your thought process regarding reusability aspects in a project? How do you implement reusable code?

Swift Basics

20. What is a Struct?
21. Could you explain what a Closure is?
22. What are the differences between Objective-C and Swift?

Memory Management

23. How do you manage memory in your projects or check for memory leaks?
24. Have you ever encountered strong retain cycles in your projects?
25. What is a race condition?

Protocols and Types

26. What types of protocols have you used, such as Hashable, Equatable, etc.?
27. What is an associated type?
28. How does an associated type differ from a generic?

Core Data and Concurrency

29. What is the difference between ManagedObjectContext and ManagedObject?

30. Can you compare GCD and Operation Queue?

31. What is QualityOfService?

Interface Design

32. What does ContentHugging mean?

33. What is Compression Resistance?

Scenario-Based Questions

34. In a banking app where data for Account Holder Name, Account Balance, and Transaction List comes from three different APIs, how would you ensure that data is only displayed when all three API responses are received?