✅ **Swift** & **Language Fundamentals**
What is optional chaining and optional binding?

Explain enum with associated type.

What are Tuples?

Difference between class and struct?

What are the different types of Initializers in Swift?

What is the Sequence protocol?

What is the Iterator protocol?

What is Dynamic Dispatch?

Difference between Any and AnyObject?

What is @objc inference?

What is the CodingKey protocol?

What is escaping vs non-escaping closures?

What are the types of closures?

What are blocks in Objective-C and how do they relate to closures in Swift?

✅ **Concurrency** & **Multithreading**
Difference between GCD and NSOperationQueue?

What are the benefits of NSOperation?

What are dispatch groups, semaphores, and barriers in GCD?

Explain actor model in Swift concurrency.

How does structured concurrency work in Swift?

When to use Task, async/await, and DetachedTask?

✅ **Memory Management**
What is a retain cycle?

What is ARC (Automatic Reference Counting)?

How to resolve strong reference cycles in closures?

What is a weak vs unowned reference?

✅ **iOS Frameworks** & **Architecture**
What is the difference between Delegate and NSNotification?

What is an extension in Swift and what can't you do in an extension?

What are NSManagedObjects, Managed Object Context, and NSPersistentContainer?

What is JSONEncoder and JSONDecoder?

Difference between Foundation and CoreFoundation?

What is a bounding box (e.g., in CoreGraphics or Vision frameworks)?

What is an offset (context: CGPoint, UICollectionView, UITableView, etc.)?

What is UIViewController lifecycle?

Explain the Coordinator pattern in iOS.

What is SceneDelegate and how does it relate to AppDelegate?

✅ **Advanced Swift** & **Best Practices**
What is protocol-oriented programming?

What is dependency injection in Swift?

Explain SOLID principles in iOS with examples.

Difference between map, flatMap, compactMap, and reduce.

What is property wrapper and how to use @State, @Published, @AppStorage?

What is the difference between static and class methods?

✅ **Testing**, **Debugging** & **Tools**
How do you write unit tests in iOS?

What is XCTest and how do you mock dependencies?

How do you debug memory leaks?

What tools do you use for performance profiling?

✅ **App Lifecycle** & **Performance**
How does iOS manage memory for background apps?

How do you handle background tasks?

What is the difference between foreground, background, and suspended states?

How to optimize app startup time?

How do push notifications work in iOS?

✅ **SwiftUI** & **Modern iOS**
Differences between SwiftUI and UIKit.

How do you integrate SwiftUI into a UIKit app?

What are some limitations of SwiftUI you've faced?

✅ **System-Level Topics**
What is the Keychain and how do you securely store sensitive data?

How do you use URLSession? What is a URLSessionConfiguration?

What is App Transport Security (ATS)?

What is the sandbox in iOS?