

## Caspex - Programming - June 2024

### 1. What are the errors in below code

```
struct SomeStruct {  
    var name: String  
}  
let aStruct = SomeStruct()  
aStruct.name = "Suresh"  
let bStruct = aStruct  
bStruct.name = "Ramesh"  
print(aStruct.name)
```

### Scenario-Based Questions and implementations

2. You're tasked with implementing a complex user interface with dynamic layouts and animations in an iOS app. Describe your approach for designing the UI, optimizing performance, and ensuring smooth animations while maintaining a responsive user experience across different iOS devices.
3. You're building an iOS app that relies on real-time data synchronization with a remote server and offline support for a seamless user experience in offline mode. How would you implement the MVVM architectural pattern to manage data synchronization and caching, handle network connectivity changes, and provide a consistent user experience both online and offline while adhering to best practices for separation of concerns and testability?
4. You're integrating a new analytics framework into an existing iOS app project to track user interactions and monitor app performance. How would you design the architecture using the MVVM pattern to encapsulate analytics tracking logic within view models, abstract analytics dependencies using protocols and dependency injection, and ensure that analytics events are triggered consistently and accurately across different screens and user interactions?
5. You're developing a new feature for an iOS app that involves fetching data from a RESTful API and displaying it in a table view. Write Swift code to implement the networking layer using URLSession or Alamofire library to fetch JSON data from the API endpoint asynchronously. Include error handling, parsing JSON response into model objects using Codable, and updating the table view with the fetched data.