Overview:

Develop an application for iOS to efficiently load and display images in a scrollable grid. **Using only SwiftUI is allowed and you are not allowed to use any third-party image loading library.**

Tasks:

- **Image Grid:** Display a scrollable grid of square images. The number of columns should dynamically adjust based on the device screen width, ensuring optimal use of space on phones, tablets, or larger devices.
- **Image Loading:**
  - Implement asynchronous image loading using this url.
  - In the response of above API you will get thumbnail object in each array element. Use following formula to construct Image URL using fields of thumbnail object imageURL = domain + "/" + basePath + "/0/" + key
- **Display**: User should be able to scroll through at least 200 images.
- **Caching:** Develop a caching mechanism to store images retrieved from the API **in both memory and disk cache** for efficient retrieval.
- **Error Handling:** Handle network errors and image loading failures gracefully when fetching images from the API, providing informative error messages or placeholders for failed image loads.
- Implementation to be done in Swift using Native technology.
- You are required to implement above mentioned tasks manually by using basic NSURLSession APIs. Please do not use Apple's high-level APIs or frameworks that automatically handle downloading, caching, or performance optimization. You must build these functionalities from scratch to demonstrate your understanding of network operations, concurrency, and manual cache management.
- Implement the assignment using **MVVM or Clean Architecture**, ensuring a well-structured and modular codebase.

Evaluation criteria

- Images should load lazily. Also if you are on for example page 1 and quickly scroll to page 10, then then the image loading of page 1 should be cancelled, and it should start loading for page 10.
- There must be absolutely no lag while scrolling the image grid.
- Disk and Memory cache both should work. Disk cache should be used If image is missing in memory cache. When image is read from disk, memory cache should be updated.

- If your code does not compile with the latest Xcode, your assignment will be rejected without checking.
- Step by step and clear instructions should be present in the README file to run the code if any.
- Assignment submitted using mediocre technologies like Flutter, React Native etc. will be rejected.

Mode of submission

Push it on GitHub and share the link with us.

Submission deadline

Within 6 days from receiving the assignment.