General Assembly
MOB Assignment Brief

WEEK 4 ASSIGNMENT

DATA STRUCTURES, IN-MEMORY STORAGE AND MORE IOS DESIGN PATTERNS

Complete all TODOs in the provided app. The provided app contains the scaffolding of a functional app and a series of TODOs, each prompting for different ways to respond to delegation and notification events by storing and displaying objects in various data structures. These exercises will give you experience with several different types of data structures, and will give you hands-on experience with common iOS design patterns (e.g. delegation, notifications).

GOALS OF PROJECT

- Be able to use the full APIs (not just getters and setters) of both arrays and maps in Swift.
- Understand the difference, at both a high level and a low level, between an array and a map.
- Differentiate when arrays and maps should be used and not used.
- Be able to use and define common Cocoa design patterns including notifications and delegates.

PROJECT REQUIREMENTS

Your app must:

- Successfully meet all tasks outlined in the given app.
- Format: Sample app has all data structure and delegation TODOs filled out and functioning.
- TODO one asks the user to accept keyboard input from a text view and store all those data points in an array.
- TODO two asks to make a table view delegate and data source that supply a given table view with four cells, each printing out the corresponding value in a given array.
- TODO three asks the user to accept keyboard input from two text views and store all those data points in an map (one text view is the key, one is the value).
- TODO four asks to make a table view delegate and data source that supply a given table view with four cells, each printing out the corresponding key and value in the given map.
- TODO five asks the user to make the background of all text boxes BLUE when the keyboard comes up, and RED when it goes down.

DELIVERABLES

- Assignment (code, resources, project file) posted on Github

TIMELINE

DUE DATE	DELIVERABLE
Week 5, Day 1	Assignment (code, resources, project file) posted on Github

SUGGESTED WAYS TO GET STARTED

Answer the following questions:

- What is an array? When would you use one? When would you not use one?
- What is a map? When would you use one? When would you not use one?
- How would you implement a map using an array?
- What is a delegate?
- What is a notification?

RESOURCES

Links:

- Apple's overview of data structures in Swift
- Apple's overview of the 'delegate' pattern commonly seen in iOS
- Apple's overview of the 'notification' pattern commonly seen in iOS
- NSHipster (a fabulous reference) goes over the power of notifications
- Bonus material for other, more advanced data structures

EVALUATION

Your assignment will be evaluated regarding the extent to which you meet the above requirements using this rubric:

LINK TO RUBRIC

The rubric outlines how your assignment will be evaluated on assignment readiness, stability & performance, and style & readability.