Week 2 Quiz

What is a TabBarController(what are its uses)?

Tab Bar Controllers are container view controllers used to group view controllers (as many as 3-5). They provide the application's user access to fundamental screens of the app.

What is autoLayout?

Autolayout is a tool that facilitates internationalization since there is no need for extra storyboards or XIB's for different languages. Additionally, if you add enough constraints to the elements of your view, auto layout can determine the position and size for all views. This produces layout that dynamically respond to internal and external changes/constraints.

What is a segue?

Segues are visual connectors between story view controllers in your story-boards, they are seen as lines among two controllers. They are used to define the flow of your application's interface. There are also adaptive segue types such as show(Push), Show Detail (Replace), Present Modally, and Present as Popover; each of which have different behavior and should be used whenever possible.

What methods are needed to build Tableviews?

Naturally, we need to override the viewDidLoad() function to associate the built in class UITableViewCell with a constant identifier "cellIdentifier" which will be instantiated as a cell object by the UITableView class.

We also need two additional functions "tableView()" that have different parameters & functionality
In one of them we must instantiate a reusable table cell for every row of data[]   by calling the   dequeueReusableCell(withIdentifier: X for: Y) which provides a pre-made instance of UITableViewCell, then populating such cell, and lastly return that cell.
In the other function we must keep count of the rows and adjust any per row configuration. In most cases the count.

What is a closure?
Closures are self-contained blocks of functionality that can be used throughout your code. Like lambdas in java and C++. In closures you can capture constants and variables from the surrounding context and then refer to and modify the values of those constants/variables even if their original scope no longer exists. In swift these are more common as nested functions.

Are there any protocols we must conform to to build Tableviews?
You must conform to two protocols UITableViewDelegate & UITableViewDataSource

Do you prefer to build your controllers in storyboard or programmatically?
I have gotten used to both, but whenever possible, I prefer to use the storyboard controllers as it is simpler and I can preview the output of my application and easily adjust colors, sizes, and more.

What is a CollectionView?
Collection views are objects that manage an ordered collection of data items and present them using customizable layouts. Collection view obtains data from the data source object which is stored in the collection's view dataSource property.

How does a UINavigationController work (what does it do)?
The navigation controller manages the navigation bar at the top of the interface and an optional tool bar at the bottom of the interface. The navigation bas is always present and is managed by the navigation controller itself. The navigation controller updates the navigation bar using the content provided by the child view controllers.

Tell me about a time you had to work to overcome a particular engineering challenge?
Often, I have been in situations that put me at a disadvantage whether not knowing a programming language or contributing to an ongoing project that its new for me. I have always been able to catch up by being diligent and organizing my time to complete multiple small goals throughout the day as

supposed to an entire feature/project. More specifically, when working with high-end scientists and not knowing weather I was good enough to even ask a question regarding COVID-19 epidemic models for curve-fitting and computation. I had to get rid of any self-pity and fear of not knowing by asking questions whenever appropriate but also by exhaustively researching on my own to arrive with some basics if I couldn't arrive at a solution on my own.