**Midterm**

CMP 430: Mobile Development (iOS)

Fall 2023

**This assignment is due by 11:59 PM on November 6th, 2023 on Blackboard.**

This assessment will test you on your knowledge of delegates, protocols, segues, auto layout, interface builder, and table views.

Goal: Your goal is to build a two-screen app. The first screen prompts the user to click the button to trigger a segue to the second screen. The second screen will contain a table view with three cells, each containing a UIImageView and a label. When the user clicks on one of the Table View cells in the second screen, that screen should be dismissed, and the background image of the first screen should be updated based on the selected cell in the second screen.

[You can view the behavior and layout of the app here](https://cuny907-my.sharepoint.com/:v:/g/personal/emira_shano44_login_cuny_edu/EUw5v3p8BMtDkRWpVFP9nloBXvg7a1vCi4Yesq1M7bMmlw?nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJPbmVEcml2ZUZvckJ1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0RpcmVjdCJ9fQ&e=LzDo2l)

Starter files: Three background images will be supplied. [You can download them here.](https://cuny907-my.sharepoint.com/:u:/g/personal/emira_shano44_login_cuny_edu/EXq9Hgx4mZ9Kvihz9e1n4rMBopxfJs04mLHaSr-XJJuyvw?e=RCAtZa)

To receive full marks, you must implement the following features: (**100pts**)

1. Layout all objects in your scene as shown in the demo video above. You should use auto layout so that the app looks the same across all iPhone sizes. Your app should only run in portrait mode. (**15pts**)
2. Create a segue from the button on the first screen to the second screen. (**10pts**)
3. The second screen should subclass from UITableView. The screen should render 3 cells. (**10pts**)
4. Each cell should contain a UIImageView and a UILabel to correctly label each cell with the appropriate image name. You can give the UIImageView whatever dimensions you like as long as the width and height are equal. (**10pts**)
5. Define and implement a delegate protocol. The protocol definition should live in the second screen View Controller class and will be implemented in the first screen View Controller class. This means that the first screen should be the delegate of the second screen (**15pts**)
   1. Implementing the delegate protocol will allow you to communicate from the second screen back to the first screen. Refer to the Checklist App to see how to work with delegates.
6. In addition to viewDidLoad, the view controller for the second screen should implement the following methods: (**20pts**)
   1. numberOfRowsInSection
   2. cellForRowAt
   3. DidSelectRowAt
7. In addition to viewDidLoad, the view controller for the first screen should implement the following methods: (**20pts**)
   1. The delegate protocol method defined previously
   2. prepare(for:sender:)

Hints

* I have named the background images in a particular way. Use this to your advantage. You can set the images in the UIImageViews using a particular UIImage initializer which uses the name of local files found in the Assets folder.
* Instead of creating outlets for the UIImageView and the UILabel in the table view cells, you can use tags. Refer to the Checklist App.
* Work incrementally. First trigger the segue to the second screen. Try to render 3 cells with dummy data and try to get the second view to dismiss itself whenever you click one of the cells. Then, think about how you can communicate between the two screens.