

CSC 471/371 Mobile Application Development for iOS

Programming Assignment 3: A Simple Calculator

Due Date & Submission

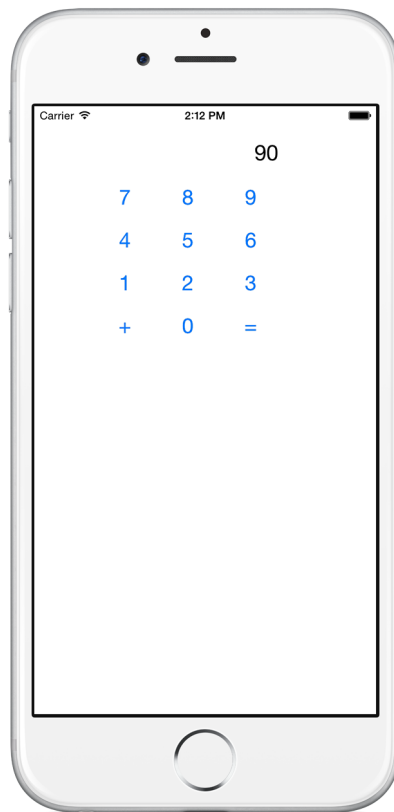
- Assignment due on Tuesday February 4, 2020, 11:59pm
- Submit your assignment in D2L Dropbox.
- Submit a single zip file that contains the contents of the project folder
 - To zip your project folder: Ctrl-click your project folder and select “Compress ...” from the context menu.
- **It is mandatory to use Xcode 11, Storyboard, and Swift 5 for this assignment.**
- Include only your source code files, including
 - *.swift, *.plist, *.xib, *.storyboard
 - image files
 - project files (.xcodeproj)
 - test folders
- You must use a unique prefix for the project name. (I suggest you use your last name and first initial as your prefix.) **Please use the same prefix for all your assignments.**
 - Note you only need to use the prefix for the project name. It is not necessary to use the prefix on other files in your project.
- Do not include unused or unrelated files.
- Before you submit, build and run the project, make sure everything compiles and works. Close your project before zipping the folder.
- Here are the most common reasons assignments are marked down:
 - Project does not build.
 - Project does not build without warnings.
 - One or more items in the Requirements section were not satisfied.
 - A fundamental concept was not understood.
 - Code is sloppy and hard to read (e.g. indentation is not consistent, etc.).
 - Your solution is difficult (or impossible) for someone reading the code to understand due to lack of comments, poor variable/method names, poor solution structure, etc.
- Bonus points.
 - Bonus points may be awarded to projects with *exceptional* qualities in one or more aspects.
 - Bonus points will only be awarded after all the required elements have been satisfied.
 - Bonus points will not be awarded merely for extra amount of work (or code).
 - Extra and sloppy code may cause your assignments to be marked down.
 - Bonus points are awarded at the sole discretion of the instructor.

Goals

- Explore Xcode and Swift language
- Explore Swift and iOS API documentation
 - String class
 - UIButton and UILabel classes
- Connect outlets and actions in Xcode

Assignments

1. Create a simple calculator app similar to the one shown below



- Use UIButton for the digits, '+', and '=' keys.
- Use a UILabel to display the result.
- You only need to handle integer additions in this assignment.
- The current number should be displayed after each digit key is pressed.
- After the '+' key is pressed, the app waits for the next number to be added.
- The result, i.e., the sum, should be displayed after the '=' key is pressed.

- Your app should properly handle key stroke sequences such as follows:
 - $1\ 2 + 4\ 5 =$
 - $1\ 2 + 4\ 5 = +\ 6\ 7 =$
- 2. Make sure your program
 - a. builds without errors or warnings, and
 - b. runs without crashing

Hints

The following are some of the methods and properties that might be useful in this assignment.

- Use `Int(str)` to convert a string to an integer. (Note that the result type is an optional type.)

Look them up in the API documentation for how to use these and other methods and properties.

- UILabel class reference
 - text property
- UIButton class reference
 - currentTitle property