

Washington State University  
School of Electrical Engineering and Computer Science  
Spring 2017

CptS 479 Mobile Application Development in iOS

**Homework 2**

Due: January 24, 2017 (11:59pm)

General Instructions: Put the entire app directory into one zip file and submit as an attachment under Content → Homework 2 for this course on the Blackboard Learn system by the above deadline. Note that you may submit multiple times, but only the most recent entry submitted before the above deadline will be graded.

1. For this homework you will extend the Joker app from HW1 to support multiple jokes that are randomly selected.

- a. You can start with your HW1 app or create a new one.
- b. Add a file called “Joke.swift” that will contain a class called “Joke” with four string variables: firstLine, secondLine, thirdLine and answerLine. The Joke class should also have an init() function that takes the four strings as parameters, where each one has a default value of the empty string “”.
- c. In your view controller file you should have outlets to the three line labels of the joke, the line label of the answer, and the button.
- d. You should have a function called initializeJokes() that creates at least three different jokes and stores them in the jokes array. In the grading, we may add one or more additional jokes, so the procedure for this should be easy and documented in the code.

For example, something like:

```
let joke = Joke("How many programmers", "does it take to",  
               "change a lightbulb?", "Zero. That's a hardware problem.")  
self.jokes.append(joke)
```

- e. You should also have a function called chooseJoke() that randomly selects one of the jokes in the array and sets the line labels appropriately. Be sure to hide the answerLine label and change the button title to “Answer”. Here’s some sample code for getting a random index into your jokes array.

```
let randomJokeIndex = Int(arc4random_uniform(UInt32(self.jokes.count)))
```

- f. When the “Answer” button is tapped, the answer line should be unhidden, and the button title should change to “New Joke”. When the “New Joke” button is tapped, you should call chooseJoke().
- g. Be sure auto layout constraints are set so that all the view elements are centered horizontally and appropriately spaced vertically, regardless of device orientation.