

## ***OOP Class Lab*** ***Fruit***

**Purpose:** This lab is an exercise in basic Objective-C, creating a subclass, and writing methods. You will modify an existing program that already has Fruit and Apple objects, adding a new subclass of Fruit called Banana.



1. Start up a Terminal shell , and change to the **OOPClass/Labs/Fruit** folder (type "**cd OOPClass/Labs/Fruit**". Type "**pwd**" to check that you are there.).

2. Run the Fruit program in the Solution directory (type "**Solution/Fruit**") to see how it works, comparing with the existing code in *fruitMain.m*, *Fruit.m*, and *Apple.m*. You'll note that the code for messaging Fruit and Apple instances is already in *fruitMain.m*, but you'll be adding code to message a Banana instance.



3. Use Edit  to write a new subclass of Fruit called Banana (.h and .m files).
- Give it one new instance variable called "length".
  - Give it new "length" and "setLength:" methods.
  - Give it a "grow" instance method which grows the diameter by one and the length by two. This method should access the diameter and length instance variables through their corresponding methods rather than directly.
  - Give it an "init" instance method that initializes the diameter, length, and color.
4. Modify fruitMain.m to create an instance of a Banana and test it.
- Create a Banana instance and initialize it. Print out instance variables.

- b. Change the banana's diameter, length, and color. Print out instance variables.
  - c. Grow the banana. Print out instance variables.
5. Modify the Makefile to include Banana.m on the MFILES line.
  6. Make (type "**make**") the new program and try it out.
  7. If you have a problem, you can sneak a peak at the files in the Solution directory.