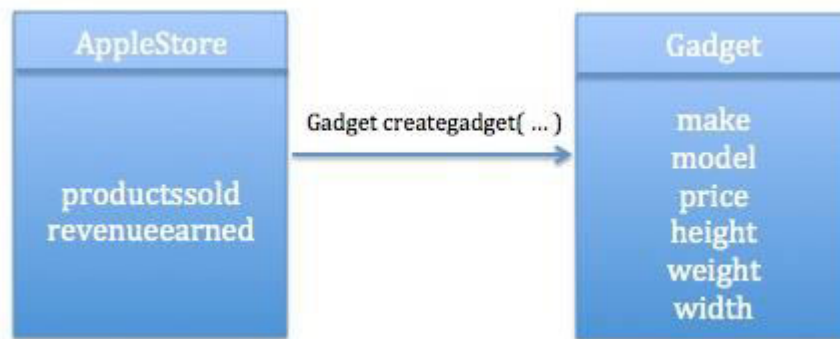# Unit 9 Assignment

Directions:

Please complete the following assignment to signify your completion of Unit 9. All programming projects need to be completed and submitted electronically, following the Electronic Submission Guidelines discussed in class.

Background:

The purpose of this assignment is to get practice working with classes. Within an object-oriented programming universe, classes and object make up the backbone of any given software system. The programming project below will ask you to learn some of these new capabilities.

Project 1: AppleStore
In celebration of the recent release of the iPhone 6, I'd like you to create the classes AppleStore and Gadget as described below. There will be two separate classes that are connected in the sense that client code will ask the AppleStore to build it a Gadget.

HINT #1: Please start by creating the class Gadget. It represents an Apple product, such as an iPod or Macbook. Create accessors and mutators for the datafields shown above (height, weight, width, price, make and model).

HINT #2: AppleStore should track the number of products it has sold and the total price paid for them all. Each call to `.createGadget( ... )` should return a Gadget object to the client code. This is referred to as a "factory design pattern".

IN ORDER TO RECEIVE FULL CREDIT, YOUR CODE SHOULD PROPERLY DEFINE TWO CLASSES AND HAVE CLIENT CODE WORK WITH THESE TWO TYPES.

Below is sample driver code which illustrates the kind of code I am looking for.

```
a = AppleStore.new()
ipod = a.createGadget( :Apple, :iPodShuffle, 49, 1.14, 1.24, 0.44,
:ounces )
# arguments are make, model, price, height, width,
# weight and weight scale
puts( "here is your ipod!!" )
puts ipod
puts( "here is your AppleStore!!" )
puts a
macmini = a.createGadget( :Apple, :MacMini, 599, 1.4, 7.7, 2.7, :pounds )
puts( "here is your macmini!" )
puts macmini
puts( "here is your AppleStore!" )
puts a
```

here is your ipod!
A $49.00 iPod Shuffle weighing 0.44 ounces
here is your AppleStore!
A store having sold 1 product with revenue of $49.00 so far!
here is your macmini!
A $599.00 MacMini weighing 2.7 pounds
here is your AppleStore!
A store having sold 2 products with revenue of $648.00 so far!