Week 9 Homework, part 1 (HW 7-1)

1. Do Chapter 7 Exercise **4**, create and test a ***FlowerCounter*** class:

   - Write a program in a class *FlowerCounter* that computes the cost of flowers sold at a flower stand.
   - There are 5 kinds of flowers, petunia, pansy, rose, violet, and carnation, which cost, respectively, 50¢, 75¢, $1.50, 50¢, and 80¢ per flower.
   - Create an array of *Strings* that holds the names of these flowers. Create another array that holds the cost of each corresponding flower.
     ***Hints*: you can use the Java *array initializer* syntax to create these; make sure the indexes of the flower's name and cost are the same.**
   - Your program should read the name of a flower and the quantity (number of flowers) desired by a customer in a loop; when the user types ***quit*** for the flower name, exit the loop.
   - Locate the flower in the *name* array and use that same index to obtain the cost per flower from the *cost* array. At the end, print the number of flowers bought and the total cost of the sale (you have to accumulate this information in the loop).
     ***Hints*: use the *Scanner next()* method to read in the name of the flower, or else use *Keyboard.next()*; if the user did not type *quit*, use *equalToIgnoreCase()* in a loop to compare their flower's name against those in the array – be sure to deal with the case where the user wants to buy a flower whose name doesn't exist in the *name* array, and print a message saying the shop does not sell that kind of flower.**

2. Do a **modified** version of Chapter 7 Exercise **4**: create and test a ***Flower*** and ***Florist*** class that work together using objects and arrays:

   - Write a ***Flower*** class with two instance variables: *String name* and *double cost*. ***Flower*** has a single constructor that takes a *String* and a *double* parameter and sets the instance variables from them. ***Flower*** also has *getter* methods for both instance variables, but does not have any *setter* methods. Finally, ***Flower*** has a *public String toString()* method that returns a *String* containing the *name* of the flower and its *cost*.
   - Copy the ***FlowerCounter*** program as the base for a class ***Florist*** that computes the cost of flowers sold at a flower stand.
   - As in ***FlowerCounter*** there are 5 kinds of flowers, petunia, pansy, rose, violet, and carnation, which cost, respectively, 50¢, 75¢, $1.50, 50¢, and 80¢ per flower.
   - ***Florist*** creates an array *flowers* of ***Flower*** objects containing this information; use 5 assignment statements to create the objects. Then ***Florist*** should print those objects in a *for* or *for-each* loop.
   - Your program should read the name of a flower and the quantity (number of flowers) desired by a customer in a loop; when the user types ***quit***, exit the loop. Locate the flower in the *flowers* array using each ***Flower*** object's *getName()* method, and use that object's *getCost()* method to obtain the cost per flower. At the end, print the number of flowers bought and the total cost of the sale (you have to accumulate this information in the loop).
     ***Hints*: use same process as above to read in the name of the flower, and, if the user did not type *quit*, compare their flower's name against those in the array – be sure to deal with the case where the user wants to buy a flower whose name doesn't exist in the *flowers* array – print the same message as above.**