CS 157 Lab 16 December 1, 2009
arrays

1. Create a new Java Project called **Lab16**. In this project, create a class called Array1 with a main method. In the main method, write the statements necessary to ask the user for how many numbers are to be entered, prompt for and input each number as a double, then print out the average and standard deviation of the numbers entered. Here is the algorithm for the standard deviation. Take each number and subtract it from the average, square the result, add up the squares, divide the result by the number of numbers the user entered minus one, and then take the square root of all that. An example is found in exercise 6 on page 434 of the text.

2. Create a new class called Array2 with a main method. In the main method, write the statements necessary to do the following. Ask the user for how many integers are to be entered, prompt for and input each as an integer. Then print out a report showing how many of the numbers entered ended in 0, how many ended in 1, …, how many ended in 9. Your output should look something like this:

   0: 2
   1: 1
   2: 0
   3: 1
   4: 2
   5: 1
   6: 0
   7: 1
   8: 1
   9: 2

   An important question you need to answer is how many arrays do you need for this problem? Make sure that you have the right answer before you start programming this problem.

3. Create a new class called Array3 with a main method. In the main method, ask the user to enter 10 integers, and store them in an array. Then repeat the following steps:

   - ask the user to enter the positions (indexes or subscripts) of two numbers
   - switch the elements of the array at those positions
   - print the 10 numbers on one line with 2 spaces between the numbers
   - tell the user whether or not the numbers are in increasing order
   - ask the user whether we want to do this again, and if not, stop.

   Be sure to test this thoroughly. Ask for help if necessary.

There is nothing to turn in for this lab.