Arrays
HW6 Demo
How about that Seattle Weather?

Code Demo!
BJP4 Self-Check 7.5: numbersArray

Language/Type:  Java arrays array mystery
Author:  Coral Peterson (on 2016/09/08)

What elements does the array numbers contain after the following code is executed? (Write the elements in the format: {0, 1, 2, \ldots })

```java
int[] numbers = new int[8];
numbers[1] = 4;
numbers[4] = 99;
numbers[7] = 2;

int x = numbers[1];
numbers[x] = 44;
numbers[numbers[7]] = 11;  // uses numbers[7] as index
```

elements
BJP4 Self-Check 7.13: printElements

Language/Type: Java arrays
Author: Marty Stepp (on 2016/09/08)

Write code that uses a for loop to print each element of an array named data that contains five integers. If the array contains the elements [14, 5, 27, -3, 2598], then your code should produce the following output:

```java
element [0] is 14
element [1] is 5
element [2] is 27
element [3] is -3
element [4] is 2598
```

Once your code works for the array of size 5, generalize the code so that it works for an array of any length.
Write a method called `countInRange` that accepts an array of integers, a minimum value, and a maximum value as parameters and returns the count of how many elements from the array fall between the minimum and maximum (inclusive).

For example, in the array `{14, 1, 22, 17, 36, 7, -43, 5}`, there are four elements whose values fall between 4 and 17.
We’ve added a fundamental tool to our CSE 142 toolbox which allows us to solve an exciting new class of problems:

```java
double temp1, temp2, ... tempNumDays? // :(

double[] temps = new double[numDays]; // :)
```

You should now be able to:

- Initialize a new array of ints, doubles, Strings, etc.
- Fill the array with values using a loop
- Perform a calculation over an array (e.g. countAboveAvg)
With Great Power, Comes Great Responsibility...

Do not use Arrays solely to return multiple, unrelated values in a method.

Be wary of index bounds, especially when looping through your Arrays (you cannot access an index less than 0 or greater than arr.length - 1).

More to come on reference semantics!
Final Notes

You **may not use arrays** in HW6

Suggested Practice-It problems:

- [arrayCodeTracing](#)
- [averageLength](#)
- [isSorted](#)

Enjoy the weather (or the opportunity to stay inside) this weekend!