February 24, 2016

Computer Science 182
Programming Assignment #3

Due: March 7, 2016

Write recursive Java methods for each of the following. I will post a test program some time next week but meanwhile write your own test program to test and debug your methods. Besides, as was seen in the last assignment, using my final test program is a terrible way to try to debug your program.

For each of these methods, I am showing the first line of the driver method. You need to complete the driver methods and write the recursive methods. Enclose these methods in a class named `ArrayUtilities`.

As always, I will need a printout of your program listing, a printout of the output produced by my *final* test program, and an email with an attached file named prog3.java that contains the `ArrayUtilities` class. The email subject should be "Grigori Perelman – prog3" if your name is Grigori Perelman.

Remember no sharing of code. Providing code for others or taking code from others are equally serious offenses.

```
// Divide and conquer
public static void out1(int data[], int n) {

// 1 element on the left, the rest of the array on the right
public static void out2(int data[], int n) {

// All but 1 element on the left and the remaining element on the right
public static void out3(int data[], int n) {

// Swap the first and last elements, reverse the remaining array
public static void reverse(int data[], int n) {

// Return the index of the largest element in the array. Divide and conquer
// with a left half, a middle element, and a right half. The largest element
// of an empty array does not make sense so you should not call the
// recursive method on an empty array.
public static int largest(int data[], int n) {

// Divide and conquer as was done in class. The maxBlock of an empty array
// does not make sense so you should not call the recursive method on an
// empty array.
public static int maxBlock(int data[], int n) {

// The usual
public static String myName() {
```