

MS-3803
Program #2
Arrays, Methods and Sorting

Date: Wednesday, December 13, 2006

Due: Monday, January 8, 2007

Write a Java program that implements a sorting class. The class will need a constructor with a single `int` argument to dimension the array instance variable inside the object. The purpose of an array class would be to create array objects, such as the `scores` object below. The class will also need a sorting method (check out the `Arrays` utility class from the library) to sort the elements in the array. The sorting class will also need a method to populate (i.e. set) the values of the elements in the array, and a get method to return elements from the array.

The following code demonstrates the use of a sorting class:

```
final int SIZE = 15;

Sorting scores = new Sorting(SIZE);
int test[] = {93, 87, 90, 89, 79, 83, 86, 77,
              91, 84, 76, 99, 70, 87, 100};

// set individual elements with one set method...
for (int i = 0; i < SIZE; ++i)
    scores.set(i, test[i]);

// or set the entire array using another set method
scores.set(test);

scores.sort();

System.out.println(scores.get(0) + " is the smallest");

scores.print();
```

Include the above code in the main method that tests your array object. The details of writing constructors and other methods for sorting are covered in chapter 8 of the textbook.