Lab 6 – Sorting and Searching Arrays

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Submit your .java code file along with screen shots of your console to prove your code works. Ensure your variables have the proper ending to show they are your work.

1. Declare an integer array intList1 with a size of 1000.
2. Randomly populate the array with values from 1 to 10.
3. Using a linear search, locate the first value of 3. Print the result to the console.
4. Print out the index values for all locations of 5. Print the result to the console.
5. Sort the array using the java.util.Arrays.sort() method.
6. Using a linear search, locate the first value of 3. Print the result to the console.
7. Using a binary search locate the first value of 3. Print the result to the console.
8. Using 2 binary search statements find the range of all the values of 5. Print the result to the console.
9. Create a two-dimensional double array doubleList2 with a size of 3 by 6.
10. Randomly populate the array with values from 1 to 10. Print the result to the console.
11. Create a new double array called Results that has a size of 3. Populate each value with sum of the column in doubleList2. So Results[0] will hold the sum of doubleList[0][0…5] etc. Print the array Results to the console.
12. Create a matrix MyMatrix1 that holds the table of values below. (Use a single statement.) Print it out.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 56 | 72 | 92 | 15 | -98 |
| 15 | 28 | 198 | 25 | 21 |
| 33 | 27 | 24 | 29 | 12 |
| 17 | 34 | 25 | 45 | 17 |

13. Sort each row of the matrix from smallest to largest. Print it out. It should look like this after sorting.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| -98 | 15 | 56 | 72 | 92 |
| 15 | 21 | 25 | 28 | 198 |
| 12 | 24 | 27 | 29 | 33 |
| 17 | 17 | 25 | 34 | 45 |