

WORKSHEET 07A – In class on week 3 day 3

	<i>Do pair programming for the following problems, switching every 10 minutes.</i>
1	<p>Create class Array1DChecker, to work with 1-D arrays:</p> <ol style="list-style-type: none"> Create a main program Create a 1-D array of 12 elements Fill in the array, by traversing <i>forward</i> with a for loop, and: <ul style="list-style-type: none"> generate a random integer (between -20 to 90), for temperature value – <i>Hint</i>: to find a random number, you may use Math.random, or the methods in the Random class display the value in the console window assign the value to an element in the array Display the array, by traversing <i>forward</i>, with an enhanced for loop (which works only in <i>forward</i> direction), and: <ul style="list-style-type: none"> display each element in the console window, and verify yourself that these values are same as in the previous step, and also in the same order Swap first & last elements Display the array, by traversing <i>backward</i>, with a for loop, and: <ul style="list-style-type: none"> display each element in the console window, and verify yourself that the arrays is in reverse order, except for the first and last elements which were swapped
2	<p>Apply some common algorithm, in the same program as above:</p> <ol style="list-style-type: none"> Use one loop, and: <ul style="list-style-type: none"> Look for the min Look for the max Calculate the sum and average Display the 4 resulting values in the console window, and verify yourself that all of the values were done correctly
3	<p>Use the library class java.util.Arrays to, in the same program as above – What do you need to import?</p> <ul style="list-style-type: none"> sort the array, and display it to verify the result: <u>method signature</u>: <code>void sort(int[])</code> <u>example of method call</u>: <code>Arrays.sort(temps);</code> // is the array in (1) search for an element in the array, and displaying the resulting index: <u>method signature</u>: <code>int binarySearch(int[] a, int key)</code> <u>example of method call</u>: <code>Arrays.binarySearch(temps);</code> <i>NOTE: The array must be sorted before calling binarySearch</i> get the text representation, and display: <u>method signature</u>: <code>String toString(int[])</code> <u>example of method call</u>: <code>Arrays.toString(temps);</code>
	<ul style="list-style-type: none"> Copy the source code from each other to keep – each student must have the working code. Submit online.

THE END