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// ICS 4UI Culminating Coding Challenges

// Day 3 - Is It Sorted?

// Main Class

public class Day3IsItSorted

{

public static void main(String[] args)

{

// CHANGE THESE VALUES

int[] a1 = {};

int[] a2 = {};

int[] a3 = {};

int[] a4 = {};

int[] a5 = {};

// Output the results

System.out.println("Array 1: This is " + numToSorted(isSorted(a1)));

System.out.println("Array 2: This is " + numToSorted(isSorted(a2)));

System.out.println("Array 3: This is " + numToSorted(isSorted(a3)));

System.out.println("Array 4: This is " + numToSorted(isSorted(a4)));

System.out.println("Array 5: This is " + numToSorted(isSorted(a5)));

}

// Returns: 1 if array is sorted, -1 if array is reverse sorted, 0 if array is not sorted

public static int isSorted(int[] array)

{

if(array.length < 2) // Arrays of length 1 or 0 will default to "sorted"

return 1;

int sortResult = 1; // Default to sorted, unless...

for(int i=0; i<array.length-1; i++)

{

if(array[i]>array[i+1])

sortResult = 0; // Any two values are in the wrong ascending order

}

if(sortResult == 0) // If the array is not forward sorted...

{

sortResult = -1; // Default to reverse sorted, unless...

for(int i=0; i<array.length-1; i++)

{

if(array[i]<array[i+1])

sortResult = 0; // Any two values are in the wrong descending order

}

}

return sortResult; // Return the result of our checks

}

// Simply converts the integer result of "isSorted()" to the words "sorted", "reverse sorted", or "unsorted" accordingly

// This could be also be done by returning a String value in "isSorted()", but this method is a little bit more versatile

// (especially if you want to do more than just output the result, and actually run different processes for each outcome)

public static String numToSorted(int result)

{

if(result==1)

return "sorted";

if(result==0)

return "not sorted";

if(result==-1)

return "reverse sorted";

// else all

return "error";

}

}