**CTA 6: Confirm Arrays are Sorted**

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Pseudocode

class ArraySortAscendedChecker

Method isSortedAscending(arr: array of integer) -> boolean

if arr.length <= 1

return true // An empty array or array with a single element is sorted

end if

for index from 0 to arr.length - 2

if arr[index] > arr[index + 1]

return false // Array is not sorted

end if

end for

return true // Array is sorted in ascending order

end method

end class

class ArraySortedAscendedCheckerTest

method testSortedArray()

sortedArray = [1, 2, 3, 4, 5]

assert isSortedAscending(sortedArray) == true

end method

method testUnsortedArray()

unsortedArray = [5, 3, 1, 4, 2]

assert isSortedAscending(unsortedArray) == false

end method

method testEmptyArray()

emptyArray = []

assert isSortedAscending(emptyArray) == true

end method

method testSingleElementArray()

singleElementArray = [42]

assert isSortedAscending(singleElementArray) == true

end method

end class

For the Big-O analysis:

The ArraySortAscendedCheck method has an O (n) time complexity because it has a linear time complexity, meaning its execution time increases linearly with the size of the input array.

**Figure 1.**

Display test receiving Green Check Marks by line numbers!

A screenshot of a computer program

Description automatically generated

**Figure 2.**

Displaying each test that was run with passing checks! A screenshot of a computer

Description automatically generated