Subarray Sort

Given an unsorted array, find the start and end index of a subarray where sorting this subarray would make the whole input array sorted.  
  
Input: Array of Integers  
Output: Two Integer Array

# Example

Input: [3, 4, **8**, 7, 10, **6**, 17] => Output: [2, 5]

Input: [3, 4, **8**, 7, 20, 6, **17**] => Output: [2, 6]

# Constraints

Time Complexity: O(N)  
Auxiliary Space Complexity: O(1)

# Solution

1. Loop from left to right and identify the first number that is smaller than the previous. Save the index as start.
2. Loop from the right to left and identify the first number that is larger than the previous. Save the index as end.
3. Loop from start index to end and find the *minimum* and *maximum* values in this subrange.
4. Loop from the beginning again and find index which *minimum* is less than the value
5. Loop from the end and find the index which the *maximum* is greater than the value
6. Return these two indices in an array.

# Notes

N/A

# Resources

http://www.geeksforgeeks.org/minimum-length-unsorted-subarray-sorting-which-makes-the-complete-array-sorted/