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Description:

The program sets the first integer in the array as both the highest and the lowest value, while keeping track of the index of both. Then our program iterates through the array of numbers, comparing each value to see if it's either the highest or lowest. Once both the highest and the lowest are found, it compares the range of both indexes to see if its within ± 1 of each other. If it is then it outputs true, otherwise false.

Pseudocode

Generate array.

Set highest to index 0

Set lowest to index 0

Integrate through to find highest and lowest number + index.

Compare to see if the difference is between 1 or -1.

If true, return true.

Else return false.

Running time analysis:

$O(n)$