A non-empty zero-indexed array A consisting of N numbers is given. The array is sorted in non-decreasing order. The*absolute distinct count* of this array is the number of distinct absolute values among the elements of the array.

For example, consider array A such that:

A[0] = -5

A[1] = -3

A[2] = -1

A[3] = 0

A[4] = 3

A[5] = 6

The absolute distinct count of this array is 5, because there are 5 distinct absolute values among the elements of this array, namely 0, 1, 3, 5 and 6.

Write a function:

class Solution { public int solution(int[] A); }

that, given a non-empty zero-indexed array A consisting of N numbers, returns absolute distinct count of array A.

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the function should return 5, as explained above.

Assume that:

* N is an integer within the range [1..100,000];
* each element of array A is an integer within the range [−2,147,483,648..2,147,483,647];
* array A is sorted in non-decreasing order.

Complexity:

* expected worst-case time complexity is O(N);
* expected worst-case space complexity is O(N), beyond input storage (not counting the storage required for input arguments).

Elements of input arrays can be modified.