Write a function

int solution(vector<int> &A);

that, given an array A consisting of N integers, returns the number of distinct values in array A.

For example, given array A consisting of six elements such that:

A[0] = 2 A[1] = 1 A[2] = 1 A[3] = 2 A[4] = 3 A[5] = 1

the function should return 3, because there are 3 distinct values appearing in array A, namely 1, 2 and 3.

Write an **efficient** algorithm for the following assumptions:

* N is an integer within the range [0..100,000];
* each element of array A is an integer within the range [−1,000,000..1,000,000].