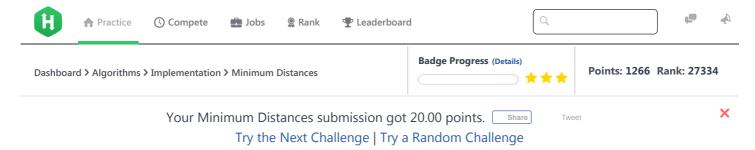
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Minimum Distances



Problem Submissions Leaderboard Discussions Editorial

Consider an array of n integers, $A = [a_0, a_1, \ldots, a_{n-1}]$. The distance between two indices, i and j, is denoted by $d_{i,j} = |i-j|$.

Given A, find the minimum $d_{i,j}$ such that $a_i = a_j$ and $i \neq j$. In other words, find the minimum distance between any pair of equal elements in the array. If no such value exists, print -1.

Note: |a| denotes the absolute value of a.

Input Format

The first line contains an integer, n, denoting the size of array A.

The second line contains n space-separated integers describing the respective elements in array A.

Constraints

- $1 \le n \le 10^3$
- $1 \le a_i \le 10^5$

Output Format

Print a single integer denoting the minimum $d_{i,j}$ in A; if no such value exists, print -1.

Sample Input

6 7 1 3 4 1 7

Sample Output

3

Explanation

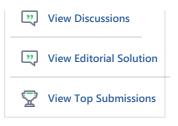
Here, we have two options:

- a_1 and a_4 are both 1, so $d_{1,4} = |1-4| = 3$.
- ullet a_0 and a_5 are both 7, so $d_{0,5}=|0-5|=5$.

The answer is min(3,5) = 3.

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Suggest Edits

f ⊌ in

```
Current Buffer (saved locally, editable) &
                                                                                       C + +14
                                                                                                                        \Diamond
 1 ▼ #include <iostream>
 2 #include <vector>
 3 #include <limits>
 4 #include <algorithm>
 5 #include <iterator>
 6 #include <cmath>
 7 int main()
 8 ▼ {
 9
        int n; std::cin>>n;
10
        std::vector<std::pair<int,int>> vec;
11
        vec.reserve(n);
12
13
        for(int i=0; i<n; ++i)</pre>
14 ▼
        {
15
            int temp; std::cin>>temp;
            vec.emplace_back(std::make_pair(temp, i));
16
17
18
        std::sort(vec.begin(),vec.end());
19
        int answer = std::numeric_limits<int>::max();
20
        for(auto itr = vec.cbegin(); itr != vec.cend()-1; ++itr)
            if( (*itr).first == (*(itr+1)).first )
21
22
                answer = std::min(answer, abs((*itr).second - (*(itr+1)).second));
23
24
        (answer==std::numeric_limits<int>::max()) ?
            std::cout << "-1" << std::endl :
25
26
            std::cout << answer << std::endl;</pre>
27
        return 0;
28
   }
29
                                                                                                               Line: 29 Col: 1
```

<u>**1**</u> <u>Upload Code as File</u> ☐ Test against custom input

Run Code

Submit Code

Congrats, you solved this challenge!

Challenge your friends: 🕴 💆 in

- ✓ Test Case #0
- ✓ Test Case #3
- ✓ Test Case #6✓ Test Case #9

- ✓ Test Case #1
- ✓ Test Case #4
- ✓ Test Case #7

- ✓ Test Case #2
- ✓ Test Case #5
- ✓ Test Case #8

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