Badge Progress (Details)

Points: 792.42 Rank: 28781

Minimum Distances

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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

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

Output Format

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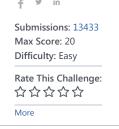
Sample Input

```
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 $d_{1,4} = |1 - 4| = 3$.
- 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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Submissions: 13433
Max Score: 20
Difficulty: Easy

Rate This Challenge:
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More

Current Buffer (saved locally, editable)

C#

```
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
```

```
4   using System.Linq;
5 ▼ class Solution {
6
7 ▼     static void Main(String[] args) {
8
9           int n = Convert.ToInt32(Console.ReadLine());
10          int[] A = Array.ConvertAll(Console.ReadLine().Split(' '), e => int.Parse(e));
11
12          int min_dif = int.MaxValue;
13
14          Dictionary<int, int> diccio = new Dictionary<int, int>();
15
16          bool hay = false;
17
18          for(int i =0; i<n; i++)
19 ▼        {
20              int elem = A[i];
21              if (diccio.ContainsKey(elem))
22 ▼            {
23                  int dif = i - diccio[elem];
24                  min_dif = Math.Min(min_dif, dif);
25                  hay = true;
26              }
27              diccio[elem] = i;
28
29          }
30
31          Console.WriteLine(hay ? min_dif : -1);
32
33
34      }
35 }
36
```

Line: 12 Col: 25

⬆ Upload Code as File   ☐ Test against custom input

Run Code   Submit Code

Congrats, you solved this challenge!

✔ Test Case #0	✔ Test Case #1	✔ Test Case #2
✔ Test Case #3	✔ Test Case #4	✔ Test Case #5
✔ Test Case #6	✔ Test Case #7	✔ Test Case #8
✔ Test Case #9		

Next Challenge

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