

## Problem: Minimum Distance:

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Consider an array of integers,  $A$ . The distance between two indices,  $i$  and  $j$ , is denoted by  $|i - j|$ .

Given  $A$ , find the *minimum* 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:**  $|x|$  denotes the absolute value of  $x$ .

### 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

- $1 \leq n \leq 10^5$
- $-10^9 \leq A[i] \leq 10^9$

### Output Format

Print a single integer denoting the minimum  $|i - j|$  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:

- $i = 0$  and  $j = 5$  are both  $7$ , so  $|0 - 5| = 5$ .
- $i = 1$  and  $j = 4$  are both  $1$ , so  $|1 - 4| = 3$ .

The answer is  $3$ .

## Solution

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```
int minimumDistances(vector <int> a) {
    int min=2147483647;
    for(int i=0; i<a.size(); i++)
    {
        for(int j=i+1; j<a.size(); j++)
        {
            if(a[i]==a[j])
            {
                if(min>abs(i-j) )
                {
                    min=abs(i-j);
                }
            }
        }
    }

    (min==2147483647 ? min=-1 : min+=0);
    return min;
}
```

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