[A - Difference array](https://vjudge.net/problem/CodeChef-MAD)

### Problem description.

Given an array, finding the minimum absolute difference b/w any two elements in an Array.

### Input

The first line contains a single integer **n** denoting the number of integers. The second line contains **n** space-separated integers describing the respective values of the array elements.

### Output

Print the minimum absolute difference between any two elements in the array.

### Constraints

* **2** <= **N** <= **10000**
* **-100** <= **Array element** <= **100**

### Example

**Input:**

3

3 -7 0

**Output:**

3

### Solution

A - MAD  
Just sort the array in ascending order and find max adjacent elements abs difference. diff = min(diff, abs(a[i] - a[i-1]) for i = [1, n-1]

#include <iostream>

#include <vector>

using namespace *std*;

int minimumDiff(*vector*<int> arr) {

int len = arr.*size*();

*vector*<int> diffArr;

int min = 1000;

for (int i = 0; i < len; i++) {

for (int j = i + 1; j < len; j++) {

if (min > *abs*(arr[i] - arr[j])) {

min = *abs*(arr[i] - arr[j]);

}

}

}

return min;

}

int main() {

*ios\_base*::*sync\_with\_stdio*(false);

*cin*.*tie*(nullptr);

*cout*.*tie*(nullptr);

int n; *cin* >> n;

*vector*<int> arr(n);

for (auto i = 0; i < n; i++) {

*cin* >> arr[i];

}

*cout* << minimumDiff(arr) << "\n";

return 0;

}