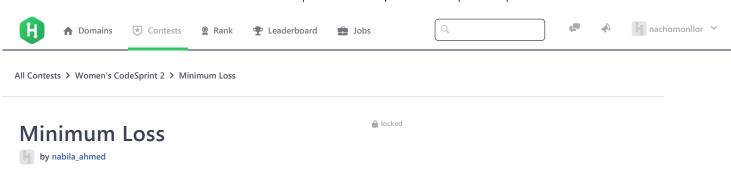
Editorial



Lauren has a chart of projected prices for a house over the next n years, where the price of the house in the ith year is p_i . She wants to purchase and resell the house at a minimal *loss* according to the following rules:

Discussions

- The house cannot be sold at a price greater than or equal to the price it was purchased at (i.e., it must be resold at a loss).
- The house cannot be resold within the same year it was purchased.

Submissions

Find and print the *minimum* amount of money Lauren must lose if she buys the house and resells it within the next n years.

Note: It's guaranteed that a valid answer exists.

Input Format

Problem

The first line contains an integer, n, denoting the number of years of house data.

The second line contains n space-separated long integers describing the respective values of p_1, p_2, \ldots, p_n .

Leaderboard

Constraints

- $2 \le n \le 2 \times 10^5$
- $1 \leq p_i \leq 10^{16}$
- It's guaranteed that a valid answer exists.

Subtasks

• $2 \le n \le 1000$ for 50% of the maximum score.

Output Format

Print a single integer denoting the minimum amount of money Lauren must lose if she buys and resells the house within the next n years.

Sample Input 0

3 5 10 3

Sample Output 0

2

Explanation 0

Lauren buys the house in year 1 at price $p_1=5$ and sells it in year 3 at $p_3=3$ for a minimal loss of 5-3=2.

Sample Input 1

5 20 7 8 2 5

Sample Output 1

2

Explanation 1

Lauren buys the house in year 2 at price $p_2 = 7$ and sells it in year 5 at $p_5 = 5$ for a minimal loss of 7 - 5 = 2.

f in Submissions: 1451 Max Score: 35 Difficulty: Medium Rate This Challenge: ☆☆☆☆☆

```
C#
 Current Buffer (saved locally, editable) & 5
                                                                                                                 Ö
    using System;
    using System.Collections.Generic;
 2
 3
    using System.Linq;
 4
    using System.Text;
 6
   ▼ class Solution {
 7
         static void Main(string[] args)
 8
 9
                 int n = int.Parse(Console.ReadLine());
10
                 long[] p = Array.ConvertAll(Console.ReadLine().Split(' '), e => long.Parse(e));
11
12
                 int[] indices = Enumerable.Range(0, n + 1).ToArray();
13
                 Array.Sort(p, indices);
14
15
                                                                                                                     long min_dif = int.MaxValue;
16
17
                 for (int i = 1; i < n; i++)
                      if (indices[i - 1] > indices[i])
18
                          min_dif = Math.Min(min_dif, p[i] - p[i - 1]);
19
20
                 Console.WriteLine(min_dif);
21
22
23
             }
24
25
                                                                                                        Line: 24 Col: 10
                     Test against custom input
1 Upload Code as File
                                                                                              Run Code
                                                                                                          Submit Code
```



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