



Minimum Loss

by [nabila_ahmed](#)

Problem

Submissions

Leaderboard

Discussions

Editorial

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

- 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.

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

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, \dots, p_n .

Constraints

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

Subtasks

- $2 \leq n \leq 1000$ 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 t in

Submissions: [4761](#)


Max Score: 35



Difficulty: Medium

Rate This Challenge:

☆☆☆☆☆

[More](#)

Current Buffer (saved locally, editable)  

Java 7  

```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

 [Upload Code as File](#) ☐ Test against custom input

Run Code

Submit Code

Join us on IRC at [#hackerrank](#) on freenode for hugs or bugs.

[Contest Calendar](#) | [Blog](#) | [Scoring](#) | [Environment](#) | [FAQ](#) | [About Us](#) | [Support](#) | [Careers](#) | [Terms Of Service](#) | [Privacy Policy](#) | [Request a Feature](#)