



Minimum Loss ☆

144/563 challenges solved

Rank: 4077 | Points: 3419.07 ⓘ



Problem

Submissions

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Lauren has a chart of distinct projected prices for a house over the next several years. She must buy the house in one year and sell it in another, and she must do so at a loss. She wants to minimize her financial loss.

For example, the house is valued at $price = [20, 15, 8, 2, 12]$ over the next $n = 5$ years. She can purchase the home in any year, but she must resell the house at a loss in one of the following years. Her minimum loss would be incurred by purchasing in year 2 at $price[1] = 15$ and reselling in year 5 at $price[4] = 12$.

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 , the number of years of house data.

The second line contains n space-separated long integers describing each $price[i]$.

Constraints

- $2 \leq n \leq 2 \times 10^5$
- $1 \leq price[i] \leq 10^{16}$
- All the prices are distinct.
- 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 $price[0] = 5$ and sells it in year **3** at $price[2] = 3$ 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 $price[1] = 7$ and sells it in year **5** at $price[4] = 5$ for a minimal loss of $7 - 5 = 2$.

Current Buffer (saved locally, editable)



Java 7



```
1 ▼ import java.io.*;
2   import java.math.*;
3   import java.security.*;
4   import java.text.*;
5   import java.util.*;
6   import java.util.concurrent.*;
7   import java.util.regex.*;
8
9 ▼ public class Solution {
10
11     // Complete the minimumLoss function below.
12 ▼   static int minimumLoss(long[] price) {
13
14
15   }
16
17   private static final Scanner scanner = new Scanner(System.in);
18
19 ▼   public static void main(String[] args) throws IOException {
20       BufferedWriter bufferedWriter = new BufferedWriter(new
FileWriter(System.getenv("OUTPUT_PATH")));
21
22       int n = scanner.nextInt();
23       scanner.skip("(\\r\\n|\\[\\n\\r\\u2028\\u2029\\u0085])?");
24
25 ▼       long[] price = new long[n];
26
27       String[] priceItems = scanner.nextLine().split(" ");
28       scanner.skip("(\\r\\n|\\[\\n\\r\\u2028\\u2029\\u0085])?");
29
30 ▼       for (int i = 0; i < n; i++) {
31 ▼           long priceItem = Long.parseLong(priceItems[i]);
32 ▼           price[i] = priceItem;
```

```
33     }
34
35     int result = minimumLoss(price);
36
37     bufferedWriter.write(String.valueOf(result));
38     bufferedWriter.newLine();
39
40     bufferedWriter.close();
41
42     scanner.close();
43 }
44 }
45
```

Line: 1 Col: 1

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