Buy Low and Sell High

HackerRank

You are given an array **prices** representing the stock prices on consecutive days. Each **prices[i]** is the price of the stock on the **i** th day.

Your objective is to maximize your profit by buying and selling the stock. You can buy the stock at one day and sell it at a later day for a profit. However, you can only make a single transaction (buy once and sell once).

Return the maximum profit you can achieve from this single transaction. If it's not possible to make any profit, return 0.

Input Format

- The first line contains an integer **n**, the number of days.
- The second line contains **n** space-separated integers representing the stock prices on consecutive days.

Constraints

- 1 <= n <= 10^5
- 0 <= price[i] <= 10^4

Output Format

- Print the maximum profit achievable from a single transaction of buying and selling the stock. If it's not possible to make any profit, return 0.

Sample Input 0

```
6
1 7 5 3 6 4
```

Sample Output 0

```
6
```

Explanation 0

Buy on day 1 (price = 1) and sell on day 2 (price = 7), profit = 7-1 = 6. Note that buying on day 2 and selling on day 1 is not allowed because you must buy before you sell.

Sample Input 1

```
5
7 6 4 3 1
```

Sample Output 1

```
0
```

Explanation 1

In this case, no transactions can be done to make profit. Therefore output is 0.