
Goldman Sachs

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 64 megabytes

You are given stock prices for N days for Goldman Sachs incorporated. The company can buy a stock unit on day i at price p_i and can sell the stock unit on any later day j at price p_j , which yields a profit of $= p_j - p_i$. Find the maximum profit the company can derive.

Input

The first line contains a single integer $N(1 \leq N \leq 10^5)$ denoting the number of days.

The second line contains N space-separated integers ($1 \leq p_i \leq 10^6$) denoting the prices of stocks on the N days.

Output

The output contains a single integer denoting the answer.

Example

standard input	standard output
6 4 5 2 3 3 1	2

Note

The following denotes the day at which the stock bought at i_{th} will be sold:

Stock 1 : Day 2

Stock 3 : Day 4

Thus, the total profit is: $(5 - 4) + (3 - 2) = 2$