



Mathematical Problem

Submit solution

All submissions
Best submissions

✔ Points: 100 (partial)

② Time limit: 2.0s

■ Memory limit: 256M

✓ Allowed languages

You are given an array A of integers of size n.

Compute the value of,

$$S = \sum_{i=1}^{n} \sum_{j=i}^{n} (\text{ max } (A_i, A_{i+1}, ..., A_j) - \text{ min } (A_i, A_{i+1}, ..., A_j))$$

In other words, compute the sum of max - min over all **subarrays** of A.

Note: A subarray is a contiguous sequence of elements within an array.

Formally, a subarray A[l...r] consists of all elements from index l to r while maintaining their relative order.

Input Format:

- The first line contains an integer n, the size of the array.
- ullet The second line contains n space-separated integers representing the elements of the array A.

Output Format:

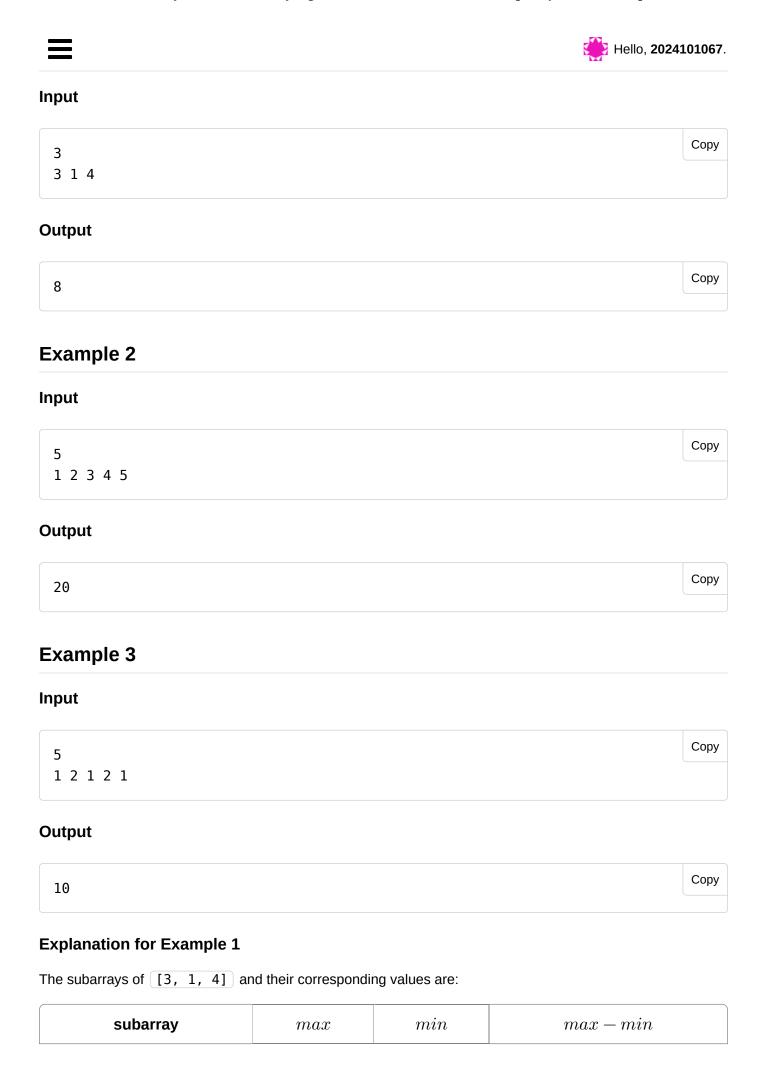
• Output a single integer, the computed sum S.

Constraints

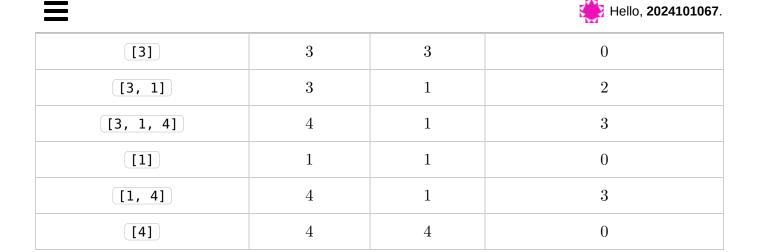
- $1 \le n \le 5 \times 10^2 \, [10 \, \text{PTS}]$
- $1 \le n \le 5 \times 10^3$ [20 PTS]
- $1 \le n \le 5 \times 10^6 \, [70 \, {\rm PTS}]$
- $1 \le a_i \le 10^5$

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Clarifications

Request clarification

No clarifications have been made at this time.

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