

943. Sum of Subarray Minimums

Difficulty : Medium

<https://leetcode.com/problems/sum-of-subarray-minimums>

Given an array of integers `arr`, find the sum of $\min(b)$, where `b` ranges over every (contiguous) subarray of `arr`. Since the answer may be large, return the answer **modulo** $10^9 + 7$.

Example 1:

Input: `arr = [3,1,2,4]`

Output: 17

Explanation:

Subarrays are `[3]`, `[1]`, `[2]`, `[4]`, `[3,1]`, `[1,2]`, `[2,4]`, `[3,1,2]`, `[1,2,4]`, `[3,1,2,4]`.

Minimums are 3, 1, 2, 4, 1, 1, 2, 1, 1, 1.

Sum is 17.

Example 2:

Input: `arr = [11,81,94,43,3]`

Output: 444

Constraints:

- $1 \leq \text{arr.length} \leq 3 \times 10^4$
- $1 \leq \text{arr}[i] \leq 3 \times 10^4$