

# Coolguy and Two Subsequences

Coolguy gives you a simple problem. Given a 1-indexed array,  $A$ , containing  $N$  elements, what will  $ans$  be after this pseudocode is implemented and executed? Print  $ans \% (10^9 + 7)$ .

```
//f(a, b) is a function that returns the minimum element in interval [a, b]

ans = 0

for a -> [1, n]
  for b -> [a, n]
    for c -> [b + 1, n]
      for d -> [c, n]
        ans = ans + min(f(a, b), f(c, d))
```

## Input Format

The first line contains  $N$  (the size of array  $A$ ).  
The second line contains  $N$  space-separated integers describing  $A$ .

## Constraints

- $1 \leq N \leq 2 \times 10^5$
- $1 \leq A_i \leq 10^9$

**Note:**  $A$  is 1-indexed (i.e.:  $A = \{A_1, A_2, \dots, A_{N-1}, A_N\}$ ).

## Output Format

Print the integer result of  $ans \% (10^9 + 7)$ .

## Sample Input

```
3
3 2 1
```

## Sample Output

```
6
```

## Explanation

$$\begin{aligned} \min( f(1, 1), f(2, 2) ) &= 2 \\ \min( f(1, 1), f(2, 3) ) &= 1 \\ \min( f(1, 1), f(3, 3) ) &= 1 \\ \min( f(1, 2), f(3, 3) ) &= 1 \\ \min( f(2, 2), f(3, 3) ) &= 1 \end{aligned}$$

We then sum these numbers ( $2 + 1 + 1 + 1 + 1 = 6$ ) and print  $6 \% (10^9 + 7)$ , which is 6.