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

- $1 \le N \le 2 \times 10^5$

- $1 \le A_i \le 10^9$

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

Output Format

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

Sample Input

```
3
3 2 1
```

Sample Output

```
6
```

Explanation

$min(\ f(1, 1), \ f(2, 2) \ ) = 2$
$min(\ f(1, 1), \ f(2, 3) \ ) = 1$
$min(\ f(1, 1), \ f(3, 3) \ ) = 1$
$min(\ f(1, 2), \ f(3, 3) \ ) = 1$
$min(\ f(2, 2), \ f(3, 3) \ ) = 1$

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