

Transforming data into some other data is typical of a programming job. This problem is about a particular kind of transformation which we'll call the *max transform*.

Let  $A$  be a zero-indexed array of integers. For  $0 \leq i \leq j < \text{length}(A)$ , let  $A_{i..j}$  denote the subarray of  $A$  from index  $i$  to index  $j$ , inclusive.

Let's define the *max transform* of  $A$  as the array obtained by the following procedure:

- Let  $B$  be a list, initially empty.
- For  $k$  from  $0$  to  $\text{length}(A) - 1$ :
  - For  $i$  from  $0$  to  $\text{length}(A) - k - 1$ :
    - Let  $j = i + k$ .
    - Append  $\max(A_{i..j})$  to the end of  $B$ .
- Return  $B$ .

The returned array is defined as the max transform of  $A$ . We denote it by  $S(A)$ .

Complete the function `solve` that takes an integer array  $A$  as input.

Given an array  $A$ , find the sum of the elements of  $S(S(A))$ , i.e., the *max transform* of the *max transform* of  $A$ . Since the answer may be very large, only find it modulo  $10^9 + 7$ .

### Input Format

The first line of input contains a single integer  $n$  denoting the length of  $A$ .

The second line contains  $n$  space-separated integers  $A_0, A_1, \dots, A_{n-1}$  denoting the elements of  $A$ .

### Constraints

- $1 \leq n \leq 2 \cdot 10^5$
- $1 \leq A_i \leq 10^6$

### Subtasks

- For **33.33%** of the total score,  $1 \leq n \leq 4000$

### Output Format

Print a single line containing a single integer denoting the answer.

### Sample Input 0

```
3
3 2 1
```

### Sample Output 0

```
58
```

### Explanation 0

In the sample case, we have:

$$\begin{aligned} A &= [3, 2, 1] \\ S(A) &= [3, 2, 1, 3, 2, 3] \\ S(S(A)) &= [3, 2, 1, 3, 2, 3, 3, 2, 3, 3, 3, 3, 3, 3, 3, 3] \end{aligned}$$

Therefore, the sum of the elements of  $S(S(A))$  is **58**.

