2281. Sum of Total Strength of Wizards

Description

As the ruler of a kingdom, you have an army of wizards at your command.

You are given a **0-indexed** integer array `strength`, where `strength[i]` denotes the strength of the `i th` wizard. For a **contiguous** group of wizards (i.e. the wizards' strengths form a **subarray** of `strength`), the **total strength** is defined as the **product** of the following two values:

- The strength of the **weakest** wizard in the group.
- The **total** of all the individual strengths of the wizards in the group.

Return *the **sum** of the total strengths of **all** contiguous groups of wizards*. Since the answer may be very large, return it **modulo** `10 9 + 7`.

A **subarray** is a contiguous **non-empty** sequence of elements within an array.

Example 1:

```
Input: strength = [1,3,1,2]
Output: 44
Explanation: The following are all the contiguous groups of wizards:
- [1] from [ 1 ,3,1,2] has a total strength of min([1]) * sum([1]) = 1 * 1 = 1
- [3] from [1, 3 ,1,2] has a total strength of min([3]) * sum([3]) = 3 * 3 = 9
- [1] from [1,3, 1 ,2] has a total strength of min([1]) * sum([1]) = 1 * 1 = 1
- [2] from [1,3,1, 2 ] has a total strength of min([2]) * sum([2]) = 2 * 2 = 4
- [1,3] from [ 1,3 ,1,2] has a total strength of min([1,3]) * sum([1,3]) = 1 * 4 = 4
- [3,1] from [1, 3,1 ,2] has a total strength of min([3,1]) * sum([3,1]) = 1 * 4 = 4
- [1,2] from [1,3, 1,2 ] has a total strength of min([1,2]) * sum([1,2]) = 1 * 3 = 3
- [1,3,1] from [ 1,3,1 ,2] has a total strength of min([1,3,1]) * sum([1,3,1]) = 1 * 5 = 5
- [3,1,2] from [1, 3,1,2 ] has a total strength of min([3,1,2]) * sum([3,1,2]) = 1 * 6 = 6
- [1,3,1,2] from [ 1,3,1,2 ] has a total strength of min([1,3,1,2]) * sum([1,3,1,2]) = 1 * 7 = 7
The sum of all the total strengths is 1 + 9 + 1 + 4 + 4 + 4 + 3 + 5 + 6 + 7 = 44.
```

Example 2:

```
Input: strength = [5,4,6]
Output: 213
Explanation: The following are all the contiguous groups of wizards:
- [5] from [ 5 ,4,6] has a total strength of min([5]) * sum([5]) = 5 * 5 = 25
- [4] from [5, 4 ,6] has a total strength of min([4]) * sum([4]) = 4 * 4 = 16
- [6] from [5,4, 6 ] has a total strength of min([6]) * sum([6]) = 6 * 6 = 36
- [5,4] from [ 5,4 ,6] has a total strength of min([5,4]) * sum([5,4]) = 4 * 9 = 36
- [4,6] from [5, 4,6 ] has a total strength of min([4,6]) * sum([4,6]) = 4 * 10 = 40
- [5,4,6] from [ 5,4,6 ] has a total strength of min([5,4,6]) * sum([5,4,6]) = 4 * 15 = 60
The sum of all the total strengths is 25 + 16 + 36 + 36 + 40 + 60 = 213.
```

Constraints:

- `1 <= strength.length <= 10 5`
- `1 <= strength[i] <= 10 9`