2233. Maximum Product After K Increments

Description

You are given an array of non-negative integers `nums` and an integer `k`. In one operation, you may choose **any** element from `nums` and **increment** it by `1`.

Return *the **maximum** **product** of* `nums` *after* ***at most*** `k` *operations.* Since the answer may be very large, return it **modulo** `10^9 + 7`. Note that you should maximize the product before taking the modulo.

Example 1:

```
Input: nums = [0,4], k = 5
Output: 20
Explanation: Increment the first number 5 times.
Now nums = [5, 4], with a product of 5 * 4 = 20.
It can be shown that 20 is maximum product possible, so we return 20.
Note that there may be other ways to increment nums to have the maximum product.
```

Example 2:

```
Input: nums = [6,3,3,2], k = 2
Output: 216
Explanation: Increment the second number 1 time and increment the fourth number 1 time.
Now nums = [6, 4, 3, 3], with a product of 6 * 4 * 3 * 3 = 216.
It can be shown that 216 is maximum product possible, so we return 216.
Note that there may be other ways to increment nums to have the maximum product.
```

Constraints:

- `1 <= nums.length, k <= 10^5`
- `0 <= nums[i] <= 10^6`