

1299. K-Concatenation Maximum Sum

Difficulty : Medium

<https://leetcode.com/problems/k-concatenation-maximum-sum>

Given an integer array `arr` and an integer `k`, modify the array by repeating it `k` times.

For example, if `arr = [1, 2]` and `k = 3` then the modified array will be `[1, 2, 1, 2, 1, 2]`.

Return the maximum sub-array sum in the modified array. Note that the length of the sub-array can be `0` and its sum in that case is `0`.

As the answer can be very large, return the answer **modulo** $10^9 + 7$.

Example 1:

Input: `arr = [1,2], k = 3`

Output: `9`

Example 2:

Input: `arr = [1,-2,1], k = 5`

Output: `2`

Example 3:

Input: `arr = [-1,-2], k = 7`

Output: `0`

Constraints:

- $1 \leq \text{arr.length} \leq 10^5$
- $1 \leq k \leq 10^5$
- $-10^4 \leq \text{arr}[i] \leq 10^4$