Array Concatenation

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

Little relyt871 has a magical machine. In each operation, his machine can do one of the following operations to the input array b:

- Generate a copy of b and concatenate it after b. More formally, the resulting array should be
$$b' = \{b_1, b_2, \ldots, b_{|b|}, b_1, b_2, \ldots, b_{|b|}\}.$$
- Generate a copy of b, reverse it, then concatenate it before b. More formally, the resulting array should be
$$b' = \{b_{|b|}, b_{|b-1|}, \ldots, b_1, b_1, b_2, \ldots, b_{|b|}\}.$$

Initially, he has an array a of length n. Then, he wants to operate the machine exactly m times using the array on his hand while maximizing the sum of all prefix sums of the final array. Since he has a somewhat finite brain, when he adds some integers, he only cares about the sum modulo $1\,000\,000\,007$. Formally, suppose after all m operations he has array b of length n', he wants to maximize the following value:

$$\left(\sum_{i=1}^{n'}\sum_{j=1}^{i} b_j\right) \pmod{1\,000\,000\,007}.$$

Please note that you should maximize the value **after** taking the modulo: the array with answer $1\,000\,000\,007$ before taking the modulo is considered less than the array with answer 1.

Input

The first line contains two integers n and m ($1 \le n, m \le 10^5$).

The second line contains n integers $a_1,\ a_2, ...,\ a_n$ ($1 \le a_i \le 10^9$) separated by spaces.

Output

Print a single integer in one line, denoting the answer.

Examples

standard input	standard output
2 1 1 2	15
5 10 26463 39326 86411 75307 85926	806275469