B. Duff in Beach

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

While Duff was resting in the beach, she accidentally found a strange array $b_0, b_1, ..., b_{l-1}$ consisting of l positive integers. This array was strange because it was extremely long, but there was another (maybe shorter) array, $a_0, ..., a_{n-1}$ that b can be build from a with formula: $b_i = a_{i \bmod n}$ where $a \bmod b$ denoted the remainder of dividing a by b.

Duff is so curious, she wants to know the number of subsequences of b like $b_{i_1}, b_{i_2}, ..., b_{i_x}$ $(0 \le i_1 < i_2 < ... < i_x < l)$, such that:

- $1 \le x \le k$
- For each $1 \le j \le x - 1$,
- For each $1 \le j \le x - 1$, $b_{i_j} \le b_{i_{j+1}}$. i.e this subsequence is non-decreasing.

Since this number can be very large, she want to know it modulo $10^9 + 7$.

Duff is not a programmer, and Malek is unavailable at the moment. So she asked for your help. Please tell her this number.

Input

The first line of input contains three integers, n, l and k ($1 \le n, k, n \times k \le 10^6$ and $1 \le l \le 10^{18}$).

The second line contains n space separated integers, $a_0, a_1, ..., a_{n-1}$ ($1 \le a_i \le 10^9$ for each $0 \le i \le n - 1$).

Output

Print the answer modulo $1\,000\,000\,007$ in one line.

Examples

input
3 5 3 5 9 1

output
10

input
5 10 3 1 2 3 4 5

output
25

Note

In the first sample case, . So all such sequences are: , , , , , , , , and .