Problem E. E

Time limit   1000 ms
Mem limit   262144 kB

Sereja has an array a, consisting of n integers a_1, a_2, ..., a_n. The boy cannot sit and do nothing, he decided to study an array. Sereja took a piece of paper and wrote out m integers l_1, l_2, ..., l_m $(1 \leq l_i \leq n)$. For each number l_i he wants to know how many distinct numbers are staying on the positions l_i, $l_i + 1$, ..., n. Formally, he want to find the number of distinct numbers among a_{l_i}, $a_{l_i + 1}$, ..., a_n.?

Sereja wrote out the necessary array elements but the array was so large and the boy was so pressed for time. Help him, find the answer for the described question for each l_i.

Input

The first line contains two integers n and m $(1 \leq n, m \leq 10^5)$. The second line contains n integers a_1, a_2, ..., a_n $(1 \leq a_i \leq 10^5)$ — the array elements.

Next m lines contain integers l_1, l_2, ..., l_m. The i-th line contains integer l_i $(1 \leq l_i \leq n)$.

Output

Print m lines — on the i-th line print the answer to the number l_i.

Sample 1

Input	Output
10 10 1 2 3 4 1 2 3 4 100000 99999 1 2 3 4 5 6 7 8 9 10	6 6 6 6 6 5 4 3 2 1