

B. Sereja and Suffixes

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Sereja has an array a , consisting of n integers a_1, a_2, \dots, 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, \dots, 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 $l_i, l_i + 1, \dots, n$. Formally, he want to find the number of distinct numbers among $a_{l_i}, a_{l_i+1}, \dots, a_n$.

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, \dots, a_n ($1 \leq a_i \leq 10^5$) — the array elements.

Next m lines contain integers l_1, l_2, \dots, 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 .

Examples

input
10 10 1 2 3 4 1 2 3 4 100000 99999 1 2 3 4 5 6 7 8 9 10
output
6 6 6 6 6 5 4 3 2 1