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 $a_1, a_2, ..., a_n$. The boy cannot sit and do nothing, he decided to study an array. Sereja took a piece of paper and wrote out m integers $l_1, l_2, ..., l_m$ ($1 \le l_i \le n$). 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 ($1 \le n, m \le 10^5$). The second line contains n integers $a_1, a_2, ..., a_n$ ($1 \le a_i \le 10^5$) — the array elements.

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

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

Codeforces Round #215 (Div. 2)
Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

data structures dp

No tag edit access

→ Contest materials

- Announcement
- Tutorial

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