



## Suffixes (suffix)

Time limit: 1.0 seconds  
Memory limit: 256 MiB

Peter has an array  $a$  of  $n$  integers,  $a_1, a_2, \dots, a_n$ . Having nothing to do, he takes a sheet of paper and writes down  $m$  integer values,  $b_1, b_2, \dots, b_m$  ( $1 \leq b_i \leq n$ ). For each number  $b_i$  he wants to know how many distinct numbers there are in the vector  $a$  from position  $b_i$  and on. In other words, given  $b_i$ , how many distinct values are there in the subarray  $a_{b_i}, a_{b_i+1}, a_{b_i+2}, \dots, a_n$ . Peter isn't able to solve the problem alone and asks for your help.

## Scoring

Your program will be tested on several test cases, gathered in subtasks. To get the maximal score assigned to a subtask, your program needs to solve correctly all the tests related to it.

- **Subtask 1 [0 points]**: the example tests shown below.
- **Subtask 2 [25 points]**:  $n, m \leq 100$ ,  $1 \leq a_i \leq 100$ .
- **Subtask 3 [25 points]**:  $n, m \leq 500$ ,  $1 \leq a_i \leq 100\,000$ .
- **Subtask 4 [30 points]**:  $1 \leq a_i \leq 100\,000$ .
- **Subtask 5 [20 points]**: no limitations.

## Input/output's Format

Your program will have to read the following data from standard console input:

- Row 1: contains the integers  $n$  and  $m$ , the counts of elements in the vectors  $a$  and  $b$  respectively.
- Row 2: contains  $n$  integers, the elements of vector  $a$ , in order.
- the next  $m$  rows: the  $i$ -th row contains the  $i$ -th element of vector  $b$ .

Your program will have to print on the console the following:

- $m$  rows: the  $i$ -th row contains the answer to the above problem, given  $a$  and  $b_i$ .

## Constraints

- $1 \leq n \leq 100\,000$ .
- $1 \leq m \leq 100\,000$ .
- $1 \leq a_i \leq 1\,000\,000\,000$ .



## Examples

stdin	stdout
10 11 1 6 3 4 1 6 3 4 512 1024 1 2 3 4 5 6 7 8 9 10 5	6 6 6 6 6 5 4 3 2 1 6
4 4 1 2 1 4 1 2 3 4	3 3 2 1

## Explanation

In the **second example test case**:

- For  $b_i = 1$  there are 3 distinct numbers among 1, 2, 1 and 4.
- For  $b_i = 2$  there are 3 distinct numbers among 2, 1 and 4.
- For  $b_i = 3$  there are 2 distinct numbers among 1 and 4.
- For  $b_i = 4$  there is only one element in this array, 4.