Ashritha and her Event

Problem code: BYCO17F

SUCCESSFUL SUBMISSIONS ⊞

Ashritha is an enthusiastic and efficient event manager who is also a fan of Number Theory and Maths in general. The RWA committee of her locality in Bangalore tasked her with organizing an annual gathering of its members.

In order to make the event interesting she decided to assign each guest an ID (a number which may or may not be unique). This number was assigned before the event and only the guest is aware of his number.

On the day of the event; as and when the guests arrived, she wrote down their corresponding IDs on a piece of paper. The sequence of IDs thus formed is denoted by S (s_1, s_2, s_3,…., s_4, s_N). Therefore, N is the total number of guests who attended the event.

She hosted a contest wherein she asked Q queries. Each query is characterized by a pair of integers: (A,B) where A and B are indices of the sequence S.

Hist[x , S] is defined as the number of times the ID x appears in sequence S.

For each query one needs to find how many such IDs are there in R = (s_A, s_{A+1}, s_{A+2},….,s_{B-1},s_B) such that

Hist[ID, R] = ID
1<= A <= N, 1 <= B <= N, A <= B

Input

Input description.

- First line contains the numbers N (no of guests), Q (number of queries)
- Next Q lines contain one query each denoted by the integers: (A,B)

Output

Output description.

- Output Q lines with the jth line holding the answer for the jth query.

Constraints

- **$1 \le N \le 10^6$**
- **$1 \le Q \le 10^7$**
- **$1 \le$ Array Element $\le 10^{10}$**

Example

Input:
7 3
2 7 1 9 2 2 90
1 3
3 6
1 5

Output:
1
2
1

Explanation

Example case 1.
Consider query 1. The number 1 appears once between indices [1,3]. Hence Hist[1,(2,7,1)] = 1 and satisfies the required condition.
Similarly for queries 2 & 3.

Author:	rvns03
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Time Limit:	1 - 2 sec
Source Limit:	50000 Bytes
Languages:	ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE

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