

## Problem XYQueries

Input file        stdin  
Output file       stdout

You are given an array  $A$  with  $N$  integers. Let  $\min(i, j)$  be the minimum value in the subarray  $A_i, A_{i+1}, \dots, A_j$ , and  $\max(i, j)$  the maximum value in the subarray  $A_i, A_{i+1}, \dots, A_j$ . You are also given  $Q$  queries, for the  $i^{\text{th}}$  query you are required to count the number of pairs  $(l, r)$ ,  $1 \leq l \leq r \leq N$  where  $\min(l, r) = X_i$  and  $\max(l, r) = Y_i$ .

### Input data

The first line of the input contains two integers  $N$  and  $Q$ . The second line contains  $N$  integers,  $A_1, A_2, \dots, A_N$ . The next  $Q$  lines describe the queries, the  $i^{\text{th}}$  of them contains two integers  $X_i, Y_i$ .

### Output data

The output will consist of  $Q$  lines, the  $i^{\text{th}}$  line containing the answer to the  $i^{\text{th}}$  query.

### Restrictions

- $1 \leq N, Q \leq 10^5$ .
- $1 \leq A_i \leq N, \forall i \in \{1, 2, \dots, N\}$ .

#	Points	Restrictions
1	9	$1 \leq N, Q \leq 100$
2	23	$1 \leq Q \leq 100$
3	31	The test cases are randomly generated.
4	37	No further restrictions.

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### Examples

Input file	Output file
7 5 3 5 3 4 2 1 5 2 5 3 5 1 2 2 4 2 4	2 5 1 2 2
15 10 7 9 2 13 12 13 11 13 13 13 10 5 13 7 2 5 13 7 13 11 13 5 10 7 13 2 9 7 9 2 9 11 13 11 13 1 8	25 1 15 1 1 2 1 2 15 15 15 15