LIGHT'S FINAL NOTE

As everyone knows that everyone who's name is there in the Death Note is going to be killed . But Light has changed the note.

He specifies each character by number . Light's death note kills anyone who cheats by changing number. We initially gave everyone distinct numbers but each character changed numbers to make it similar to L's number . Light doesn't know what L's number is . So he kills all character having the same number between the specified pages of the death note or if no one has the same number he kills a single person at random .
You will be given each character's numbers and you have to tell number of characters who will be killed in each check made by Light in the Note.

Input :
The first line of input will contains two integers N and Q . The next line will contain N spaced integers denoting the number of each character . The next Q lines will contain two elements i and j, where i denotes the starting index of query and j denotes the end of it .

Output:
There will be Q lines of input and each line will contain a single integer i.e the number of people who are going to die according to Light's Note Rule which is the maximum number of times any integer occurs .

Example:

Input:
10 3
-1 -1 1 1 1 1 3 10 10 10
2 3
1 10
5 10
Output:
1
4
3

Note:

In the first query(2,3) : Two elements having different values so one character at random will die .

In the second query(1,10) : In the whole array 1 occurs 4 times . So 4 elements will die

In the third query(5,10) : In this query , 10 occurs 3 times so 3 characters will die.