

- N people numbered $1, 2, \dots, N$ are standing in a row. Person i wears colour A_i .
- Answer Q queries of the format below.

You are given integers l and r . Considering only People $l, l+1, \dots, r$, how many pairs of people wearing the same colour can be formed at most?

Input Format

Three string parameters for your function:

- N
- " $A_1 A_2 \dots A_N$ "
- Q
- Query_1
- Query_2
- \vdots
- Query_Q

Where each query is in the following format: " $l\ r$ "

Constraints

- All values in input are integers.
- $1 \leq N \leq 10^5$
- $1 \leq Q \leq 10^6$
- $1 \leq A_i \leq N$
- $1 \leq l \leq r \leq N$ in each query.

Output Format

Print Q elements each on a new line. The i -th line should contain the answer for the i -th query as an integer.

The use of fast input and output methods is recommended because of potentially large input and output.

Sample Input 0

```
10
1 2 3 2 3 1 3 1 2 3
6
6 10
5 8
3 6
4 4
1 6
1 10
```

Sample Output 0

2
2
1
0
3
4

Explanation 0

We have $A = (1, 2, 3, 2, 3, 1, 3, 1, 2, 3)$. This input contains six queries.

The first query is $(l, r) = (6, 10)$. By pairing Person 6,8 and pairing Person 7,10, we can form two pairs of people wearing the same colour.

The second query is $(l, r) = (5, 8)$. By pairing Person 5,7 and pairing Person 6,8, we can form two pairs of people wearing the same colour.

There can be a query where $l = r$.