D-query

English

Vietnamese

Given a sequence of n numbers $a_1, a_2, ..., a_n$ and a number of d-queries. A d-query is a pair (i, j) $(1 \le i \le j \le n)$. For each d-query (i, j), you have to return the number of distinct elements in the subsequence $a_i, a_{i+1}, ..., a_j$.

Input

- Line 1: n ($1 \le n \le 30000$).
- Line 2: n numbers $a_1, a_2, ..., a_n \ (1 \le a_i \le 10^6)$.
- Line 3: q ($1 \le q \le 200000$), the number of d-queries.
- In the next q lines, each line contains 2 numbers i, j representing a d-query $(1 \le i \le j \le n)$.

Output

• For each d-query (i, j), print the number of distinct elements in the subsequence $a_i, a_{i+1}, ..., a_i$ in a single line.

Example

Input

Output

3

- 2
- 3