

RMQSQ – Range Minimum Query

<https://www.spoj.com/problems/RMQSQ/>

You are given a list of **N** numbers and **Q** queries. Each query is specified by two numbers *i* and *j*; the answer to each query is the minimum number between the range [*i*, *j*] (inclusive).

Note: the query ranges are specified using 0-based indexing.

Input

The first line contains **N**, the number of integers in our list ($N \leq 100,000$). The next line holds **N** numbers that are guaranteed to fit inside an integer. Following the list is a number **Q** ($Q \leq 10,000$). The next **Q** lines each contain two numbers *i* and *j* which specify a query you must answer ($0 \leq i, j \leq N-1$).

Output

For each query, output the answer to that query on its own line in the order the queries were made.

Example

Input	Output
3	4
1 4 1	1
2	
1 1	
1 2	