# Sphere online judge

#### **♣ PROBLEMS** ■ STATUS **PRANKS** Q DISCUSS CONTESTS **Sign in**

Problems / classical / D-query

Status Ranking

# DQUERY - D-query

#sorting #tree

#### 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.

open in browser PRO version Are you a developer? Try out the HTML to PDF API

• In the next q lines, each line contains 2 numbers i, j representing a d-query (1 ≤ i  $\leq j \leq n$ ).

# Output

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

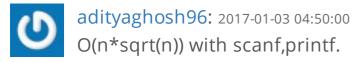
# Example

```
Input
1 1 2 1 3
1 5
3 5
Output
3
2
3
```



#### hide comments





harisagar: 2016-12-28 09:57:28 use faster io(not cin,cout).....

Last edit: 2016-12-28 09:58:05

rihaz zahir: 2016-12-28 09:21:22 std::ios\_base::sync\_with\_stdio(false); use above code in main for fast I/O in c++, this will run cin/cout faster than scanf/printf. google search for details.



vengatesh15: 2016-12-22 17:08:02 my first MO type Problem AC after 3WA

testing java: 2016-12-13 12:58:03 Nice problem, not so nice time limit. Wasted a lot of time on making java solution fast enough.

rihaz zahir: 2016-12-05 09:32:01 where can i find my previous submission for this question?

davidgalehouse: 2016-11-15 05:44:54 0.17s with C++, TLE with C# despite very similar benchmarking on my local

machine for a 30k/200k test case... I don't get how, given other ACs with much higher times like .5 or .7... Also the source array is malformed, you'll have to trim before splitting or remove empty entries if trying C#.

Last edit: 2016-11-15 05:47:16



oakszyjrnrdy: 2016-10-26 15:59:26

It's very easy to solve this problem using a data structure called 'Zhuxi Tree' in Chinese(sorry~, i don't know how to call it in English, maybe Chair Tree?).

Time: O(n\*logn + q\*logn).

Space: O(n\*logn).

Last edit: 2016-10-26 16:00:56



vicennial: 2016-10-24 19:20:21

How are people solving it with 0.3+ running time when the time limit itself is 0.227 seconds??

#### ✓ Submit solution!

Added by: Duc

Date: 2008-10-26 Time limit: 0.227s Source limit: 50000B Memory limit: 1536MB

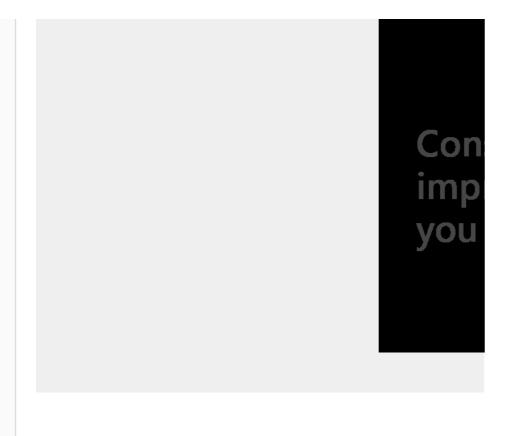
Cluster: Cube (Intel G860)

All except: ERL JS NODEJS

PERL 6 VB.net

Resource: © VNOI

Languages:



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