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ROIGOLD BLOG TEAMS SUBMISSIONS GROUPS CONTESTS

ROIgold's blog

Help with Segment Tree problem, please!

By ROlgold, history, 13 hours ago, 38,

In this -> 375D - Tree and Queries problem:

Given *tree* of n vertices, each vertex has its color, c_v

Given q queries of type: (v, k), $1 \le v \le n$, $1 \le k \le 10^{\circ}$

For each query print: number of colors with occurrence at least k, in subtree of v

 $2 \le n \le 10^{5}$

 $1 \le q \le 10^5$

 $1 \le c_v \le n$

My Solution:

First, let's represent our tree as binary tree (segment tree), where v - th element represents color of v - th vertex, by using Euler's tour.

Now, for each vertex, we can store occurrences of colors in its subtree.

Notice, that it'll take $O(Nlog_2N)$ memory, (by using std::map), because on each level we store n elements and we have log_2n levels.

Then, since we don't need colors themselves, we can just store their occurrences (by using std::vector) in sorted order.

Then the query can be represented as follows:

Find number of elements from tin_{ν} to $tout_{\nu}$, which are **greater or equal** than k.

Here we use Segment Tree.

Let's assume that we're on some vertex v, which responds for some segment l, r.

Then, if $tin_v \le l$ and $r \le tout_v$, then, we return:

 $Elements[v].end() - lower_{bound}(Elements.begin(), Elements.end(), k)$, which's count of elements from l to r which are **greater or equal** than k.

I have WA in 6th test, which's size is too big and I can't find a mistake.

Please, tell me in comments if my solution or implementation is wrong, and if it is, then, where's error.

My implementation: 38001155.

Sorry for bad formatting, how to make tabs?

And additional, not related to this topic question: If I know Russian, should I write in Russian, or continue writing in English?

Sorry for my English, there might be some mistakes!

segment tree, euler tour, binary search, help me





Write comment?



5 hours ago, # | 🏠 The problem with this solution is that when you query your segment tree, you

might count a single color twice if it occurs more than K times on different branches of the segment tree.

EDIT: This test case fails for the same reason:

→ Pay attention

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2 hours ago,	<u>#</u>	^		☆	A +3 V
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Thank You very much, I'll think about how to solve it! $\rightarrow \underline{\text{Reply}}$

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