AminAnvari's blog

Segment Tree Problems

By **AminAnvari**, 2 years ago,

Hi :)
These are some segment tree problems on codeforces. Ofcourse it is not complete and I hope we will complete it with your help. And great thank to **magar0_o** for helping me.

UPD : more Segment Tree

Classic :
339D - Xenia and Bit Operations
356A - Knight Tournament
459D - Pashmak and Parmida's problem
61E - Enemy is weak
380C - Sereja and Brackets
474F - Ant colony
292E - Copying Data
501D - Misha and Permutations Summation
220E - Little Elephant and Inversions
338E - Optimize!
19D - Points
351D - Jeff and Removing Periods
515E - Drazil and Park
540E - Infinite Inversions
609F - Frogs and mosquitoes
594D - REQ
455E - Function

Lazy Propagating:
52C - Circular RMQ
145E - Lucky Queries
558E - A Simple Task
240F - TorCoder
446C - DZY Loves Fibonacci Numbers
115E - Linear Kingdom Races
438D - The Child and Sequence
121E - Lucky Array
610E - Alphabet Permutations
580E - Kefa and Watch

Segment tree with Vector:
369E - Valera and Queries
610D - Vika and Segments

Offline Query:
301D - Yaroslav and Divisors
500E - New Year Domino

Segment Tree & Dp:
474E - Pillars
597C - Subsequences
56E - Domino Principle

Segment Tree & Bits:
482B - Interesting Array
242E - XOR on Segment

Segment Tree & Tree:
383C - Propagating tree
343D - Water Tree
173E - Camping Groups
276E - Little Girl and Problem on Trees
396C - On Changing Tree
516D - Drazil and Morning Exercise
375D - Tree and Queries

titles are not tag :))

Discussion of Segment Tree

segment tree

+174 ☆ AminAnvari 2 years ago 54

Comments (54)

Write comment?


M2J

2 years ago, # | ☆ +3

Thank you MR anvari

→ Reply


nazaninnnnn

2 years ago, # | ☆ +6

omG Tnx AA :D

→ Reply


maximaxi

2 years ago, # | ☆ 0

This should also help.

→ Reply


AminAnvari

2 years ago, # ^ | ☆ 0

thanks for the link. It was helpful.

→ Reply


dcordb

2 years ago, # | ☆ +6

another segment tree & bits

→ Reply


k790alex

2 years ago, # | ☆ +3

Segment tree on string: Letter Array

→ Reply


1-i

2 years ago, # | ☆ +8

Hackerrank's advanced level problems on segment trees are nice too. Check them out.

→ Reply


ozcelik

2 years ago, # | ☆ +16

I was looking for this everywhere , i think it will be great helpful for me Thank you.

→ Reply

2 years ago, # | ☆ 0

How come i can only see problem names in russian?

→ Reply

9	adamant	139

View all →

→ Favourite groups

#	Name
1	ACM-OI

View all →

→ Find user

Handle:

Find

→ Recent actions

Arpa → Codeforces Round #428 editorial

brdy → Dynamic Segment Tree Problems

Hasan0540 → Codeforces Round #480 (Div. 2) Editorial

L.O → Calculus and Algebra

Arpa → [Tutorial] Sack (dsu on tree)

Hasan0540 → Codeforces Round #480 (Div. 2)

VLamarca → Please allow rated participation of purple-rating users in Div. 2 contests

Sonechko → Codeforces Round #371 Editorial

Geez → Why TLE?!

Vovuh → Codeforces Round #479 (Div. 3) Editorial

I_Love_Jafar_Badour → Drugs and Competitive Programming

agw → The color distributions

diegorpc → 86D - Powerful Array (TLE)

dmkozyrev → Dynamic programming problem

kazama460 → Need help in Convex hull problem(my first on convex hull)

MiptLited → Moscow Workshops ICPC will be held in Grodno and Vladivostok on July 23-30, 2018

kleenex → My friend wants new subject for R&E(Research and Education), plz recommend something.

jerryseinfeldfmy → TIMUS oj 1049. Brave Balloonists...

rajarshi_basu → Segment Tree Beats. A simpler understanding.

Rollo → Codeforces Round #478 (Div. 2)

hmehta → TCO18 Poland Regionals — University of Warsaw

I_Can_Do_It → Delete codeforces account

Endagorion → Разбор VK 2018 Round 3 + Codeforces Round #477

XMORE → Help with probability problem please

dj3500 → Hightail — automatic tester for programming contests

Detailed →

fifiman

→ Reply

luismo

2 years ago, # ^ | ☆ 0

Umm... right now it can't be seen in english, which I believe most of us need, it would be great to show it like this: [problem code] [english name] / [russian name]

→ Reply

AminAnvari

2 years ago, # ^ | ☆ +3

Now you can see problems in English :))

→ Reply

Arpa

2 years ago, # ^ | ☆ ← Rev. 2 +3

Again they are in russian; Why ?

UPD You fixed that again, but in my comment it is russian yet,how to fix it?

→ Reply

2 years ago, # | ☆ 0

Is 356A — Knight Tournament a segment tree problem?

→ Reply

Sq1

17 months ago, # ^ | ☆ 0

Jakube

A little bit late ;-) Yes, it is possible to solve it with a segment tree. But instead of updating a single value and querying for ranges, you have to invert it so that you can modify an interval and get access to each element. Additionally you have to make sure that you insert the fights in the reversed order, otherwise some fights will overwrite others. Here is my implementation: 23198751

→ Reply

17 months ago, # ^ | ☆ 0

Thank you :)

→ Reply

Sq1

luismo

2 years ago, # | ☆ 0

This should be updated with the problem links in this post. How can it be done ??

→ Reply

Arpa

2 years ago, # | ☆ 0

Segment Tree & Dp: 629D - Babaei and Birthday Cake

Segment Tree & Heavy Light Decomposition : 117E - Tree or not Tree

→ Reply

sdpsarker88

17 months ago, # | ☆ 0

Wow! This will be so much helpful to many. Thanks for the effort!

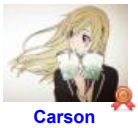
→ Reply

bati06

15 months ago, # | ☆ ← Rev. 2 0

Titles of the problems appear in Russian in this blog post. Is it possible to change to English? (I remember it was in English previously. Maybe some settings changed for me.)

→ Reply


Carson

15 months ago, # | ☆ 0

760E is also a segment tree problem

→ Reply


Auranzeb

14 months ago, # | ☆ -13

This question(570C) can also be solved using segment tree.Here is my solution.

→ Reply


tuna_salad

11 months ago, # ^ | ☆ +20

That's overkill. There exists an easier and faster solution for that problem.

→ Reply


srinu37

13 months ago, # | ☆ +1

Segment tree + dp 675E - Trains and Statistic

→ Reply


NikolaTECH

11 months ago, # | ☆ +7

You can also find many Segment Tree problems on A2 Online Judge. They are ranked by their difficulty, and also including many online judges like codeforces, SPOJ, codechef etc.

→ Reply


nimxor

11 months ago, # | ☆ 0

Segment tree + DP problem : D. Babaei and Birthday Cake

→ Reply


eddycael

11 months ago, # | ☆ 0

Can anyone help me with this? I don't know how use a segment tree in order to solve the problem. I solved this using a C++ set. Thanks in advance.

→ Reply


mohitrbhardwaj

11 months ago, # | ☆ 0

How to solve 459D using a segment tree? I solved it using Fenwick tree but I could not think of a solution using segment tree.

→ Reply


jaskamalkainth

11 months ago, # | ☆ 0

This blog contains 20 Segment tree Problems (Easy, Medium, hard) along with there solutions. Hope it helps someone.

http://codeforces.com/blog/entry/46602

→ Reply


mohitrbhardwaj

10 months ago, # ^ | ☆ 0

Thanx it was really helpful.

→ Reply

Ehsan_sShuvo

6 months ago, # ^ | ☆ 0

No hints there :'(

→ Reply


minblue

10 months ago, # | ☆ 0

Shouldn't 292E — Copying Data be under the "Lazy Propagation" section?

If not, how to solve this problem using just classic segment tree?

Nice list, by the way

Nice list, by the way.

→ Reply

luismo

8 months ago, # ^ | ☆ +3

I solved it using Lazy Propagation, I couldn't find a way without it, I join the request for a non-lazy-propagation solution.

→ Reply

griever

9 months ago, # | ☆ 0

How to solve Enemy is Weak Problem using segment tree,I'm not able to understand the editorial.

Links Problem Enemy is Weak

Editorial blogpost

→ Reply

unbelievable02

9 months ago, # ^ | ☆ 0

1 Let's use coordinate compression on a[i]. Then we have all the a[i] in the range (0, N].

2 Let's create new array b[MAXN].

b[i] — amount of j what a [j] > a [i] and j < i.

It can be done with Fenwick or Segment tree.

```
for (int i = 1; i <= n; i++){
  b [i] = get (a[i] + 1, n);
  upd(a [i], 1);
}
```

3 Answer will be sum of d [i].

d[i] — sum of all b [j] what j < i and a [j] > a [i].

```
for (int i = 1; i <= n; i++){
  d[i] = get (a[i] + 1, n);
  upd(a [i], b [i]);
}
```

Sorry For My English

→ Reply

griever

9 months ago, # ^ | ☆ 0

Thank you for helping, your comments means a lot to me. :-)

Here's my well commented code (to help people who are stuck on this problem) 29129951

→ Reply

Qhb

9 months ago, # | ☆ 0

Thanks !! It was very very helpful.

→ Reply

Kaneki_04

8 months ago, # | ☆ 0

Thanks a lot bud. Finally a compilation of segtrees problems in codeforces

→ Reply

8 months ago, # | ☆ 0

tysm

→ Reply

rajaravan420ashu

filippos

6 months ago, # | ☆ 0

877E — segment tree on tree

→ Reply

paras2411

5 months ago, # | ☆ ← Rev. 2 0

Why the code is showing TLE for Xenia and Bit operation.
http://codeforces.com/contest/339/submission/33017272

→ Reply

dalex

5 months ago, # ^ | ☆ 0

Use BufferedReader and PrintWriter

→ Reply

paras2411

5 months ago, # ^ | ☆ 0

Thanks brother :) This is my 1st code using segment tree. I really wanted to learn this.

→ Reply

paras2411

5 months ago, # ^ | ☆ 0

http://www.spoj.com/problems/CDC12_H/ . Can you help me in this problem.
http://www.spoj.com/submit/CDC12_H/id=20755931 . Here is my submission. I am getting TLE in this code also.

→ Reply

dalex

5 months ago, # | ☆ ← Rev. 2 0

377D - Developing Game

605D - Board Game — segment tree and ...

:::

540E - Infinite Inversions does not really require segment tree, Fenwick tree is enough.

→ Reply

the_phoenixx

5 months ago, # | ☆ 0

Great effort!!

→ Reply

CyberSword

3 months ago, # | ☆ 0

920F - SUM and REPLACE

could solve with segment... :))

→ Reply

brdy

3 months ago, # ^ | ☆ 0

Do you need lazy propagation? That was my idea in-contest but couldn't implement it right.

→ Reply

radoslav11

3 months ago, # ^ | ☆ 0

no you don't

→ Reply

3 months ago, # | ☆ 0

Easy!

Combi

→ Reply

Stakinvario

new, 3 months ago, # ^ | ☆ +2

Combi don't comment it.The person who comment it is **Flying_Dragon_02**

→ Reply

Flying_dragon_02

new, 3 months ago, # ^ | ☆ 0

Don't lie dude.

→ Reply

Combi

new, 3 months ago, # ^ | ☆ 0

sorry everyone!! I forget to log out so **Flying_Dragon_02** can say something.... it's not good. We're just student. This topic's very good for me because I need to improve my skill in IT

→ Reply

ashishj123

new, 2 months ago, # | ☆ 0

Can someone explain , how to solve http://codeforces.com/contest/459/problem/D using segment tree . I tried to solve it using merge sort tree but got TLE . Then , i could solve it using BIT and map .

→ Reply

striver_79

new, 2 weeks ago, # | ☆ 0

Problem link

Can anyone help me out? I m stuck and not able to find any editorial for it.

→ Reply