

Line Sweep Algorithm

Concepts & One



- ∞  → codestorywithMIK
- X  → CSwithMIK
- WhatsApp  → codestorywithMIK

Video-4
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Motivation :

Every problem in life is temporary,

but the regret of knowing you
didn't give 100% when it mattered
is permanent

So, head down, work hard, and make
sure your preparation is stronger than
your excuses.



MIX

Meeting Rooms II

Aon / Metal Ubu



Difficulty: Medium Accuracy: 48.01% Submissions: 19K+ Points: 4

Given two arrays start[] and end[] such that start[i] is the starting time of ith meeting and end[i] is the ending time of ith meeting. Return the minimum number of rooms required to attend all meetings.

Note: A person can also attend a meeting if its starting time is same as the previous meeting's ending time.

Examples:



Input: start[] = [1, 10, 7], end[] = [4, 15, 10]

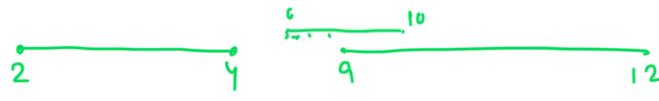
Output: 1

Explanation: Since all the meetings are held at different times, it is possible to attend all the meetings in a single room.

Input: start[] = [2, 9, 6], end[] = [4, 12, 10]

Output: 2

Explanation: 1st and 2nd meetings at one room but for 3rd meeting one another room required.



Constraints Analysis :-

(1) $1 \leq \text{start.size}() = \text{end.size}() \leq 10^5$

(2) $0 \leq \text{start}[i] < \text{end}[i] \leq 10^6$

Thought Process

Start = {2, 9, 6}

end = {4, 12, 10}



Min. meet. Room = Max overlaps.

events = { $(2, +1)$, $(4, -1)$, $(6, +1)$, $(10, -1)$, $(9, +1)$, $(12, -1)$ }

Sort:

$\{(2, 1), (4, -1), (6, 1), (9, 1), (10, -1), (12, -1)\}$

overlaps = 0

maxOverlap = 2 ← ↴



Melt II

Max overlap