1288. Remove Covered Intervals

20 February 2022 05:36 PM

Given an array `intervals` where `intervals[i] = [l_i, r_i]` represent the interval `[l_i, r_i)`, remove all intervals that are covered by another interval in the list.

The interval `[a, b)` is covered by the interval `[c, d)` if and only if `c <= a` and `b <= d`.

Return *the number of remaining intervals.*

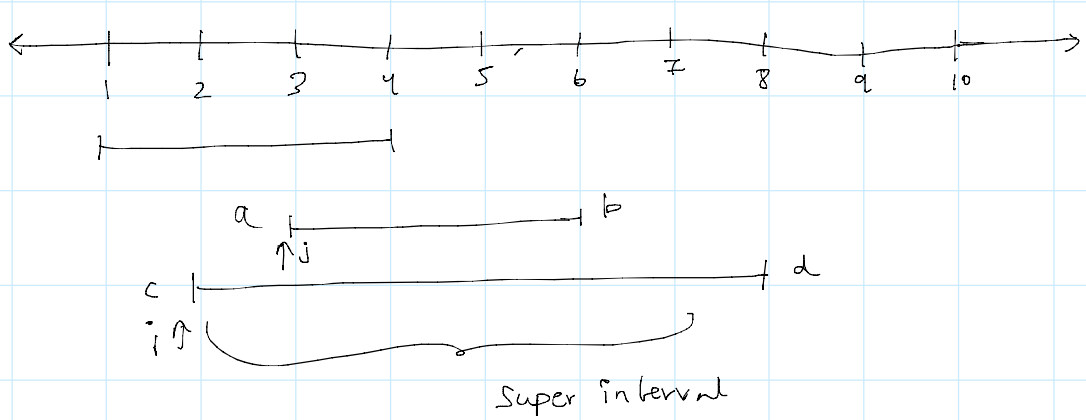
Example 1:

```
Input: intervals = [[1,4],[3,6],[2,8]]
Output: 2
Explanation: Interval [3,6] is covered by [2,8],
therefore it is removed.
```

Example 2:

```
Input: intervals = [[1,4],[2,3]]
Output: 1
```

[[1,4], [3,6], [2,8]] output = 2



So remaining is [[1,4] [2,8]] output is 2.

(a, b) (c, d)

c <= a ✓

b <= d ✓

cnt = 0

interval[i][0] <= interval[j][0] && interval[j][1] <= interval[i][1]

cnt++;

[[1,4], [1,7], [2,6], [3,10], [3,9]] output : 2

Sort only by start index

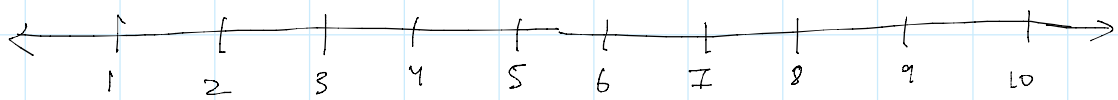
([1,7), (1,4), (2,6) (3,10), (3,9))

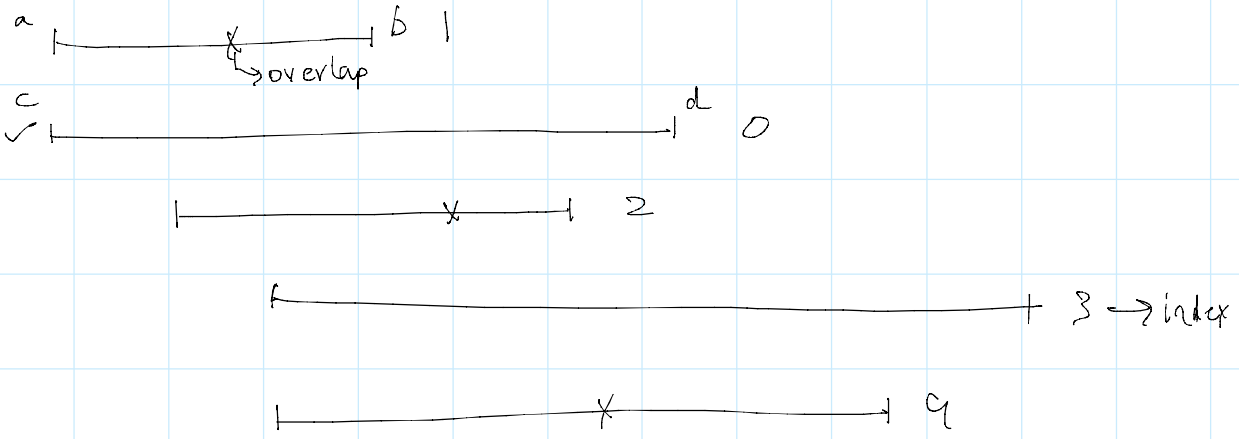
c <= a

b <= d

Sort start by ascending, last by descending order

The largest index is c d





X → overlap

Output ⇒ 2

→ i = 0

for (j = 1 ; j < len ; j ++)

if (intervals [i] [0] <= intervals [j] [0] &&

intervals [j] [1] <= intervals [i] [1])

cnt ++

else;

i = j

T.C ⇒ O (nlogn) S.C ⇒ O(1)