Line Sweep Algorithm Concepts & Qns

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Video - 6

Motivation :

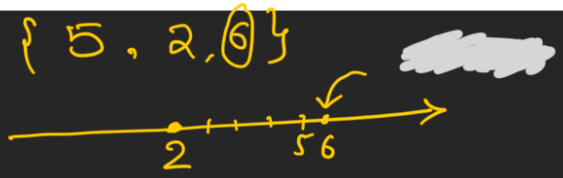
Always remember

"Something doesn't get easier. You just get better"

So, why stop pushing your limits.

MIK...

1094. Car Pooling

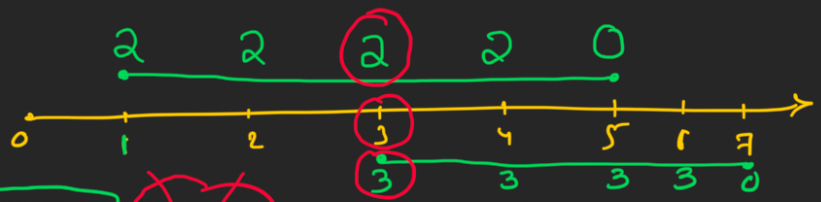


Medium | Topics | Companies | Hint

There is a car with `capacity` empty seats. The vehicle only drives east (i.e., it cannot turn around and drive west).

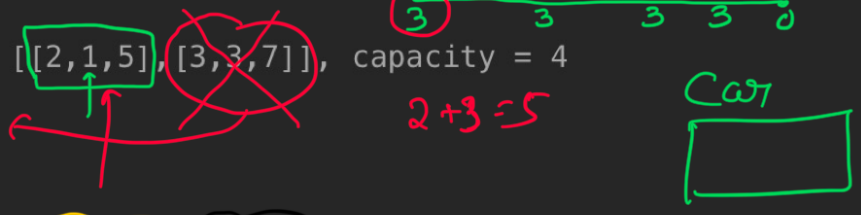
You are given the integer `capacity` and an array `trips` where `trips[i] = [numPassengers_i, from_i, to_i]` indicates that the `i^th` trip has `numPassengers_i` passengers and the locations to pick them up and drop them off are `from_i` and `to_i` respectively. The locations are given as the number of kilometers due east from the car's initial location.

Return `true` *if it is possible to pick up and drop off all passengers for all the given trips, or* `false` *otherwise.*



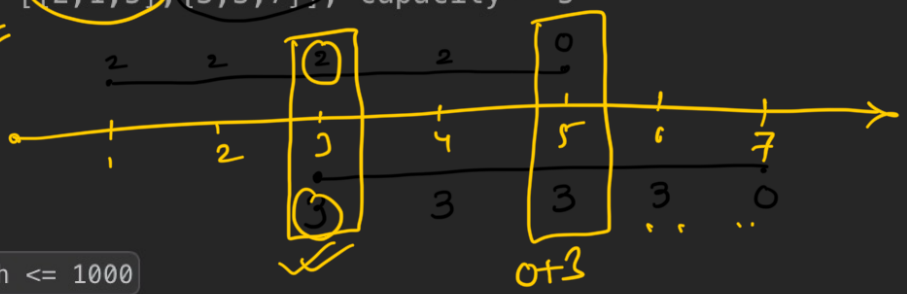
Example 1:

```
Input: trips = [[2,1,5],[3,3,7]], capacity = 4
Output: false
```



Example 2:

```
Input: trips = [[2,1,5],[3,3,7]], capacity = 5
Output: true
```



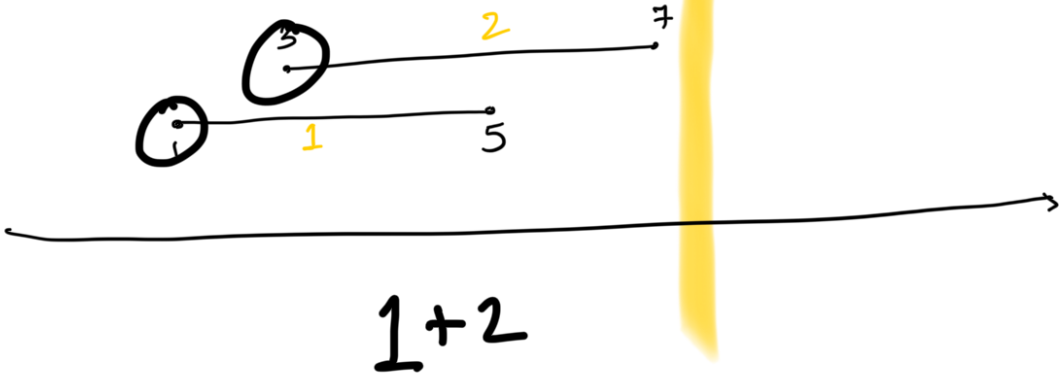
Constraints:

- `1 <= trips.length <= 1000`
- `trips[i].length == 3`
- `1 <= numPassengers_i <= 100`
- `0 <= from_i < to_i <= 1000`

- $1 <= capacity <= 10^5$

Thought Process

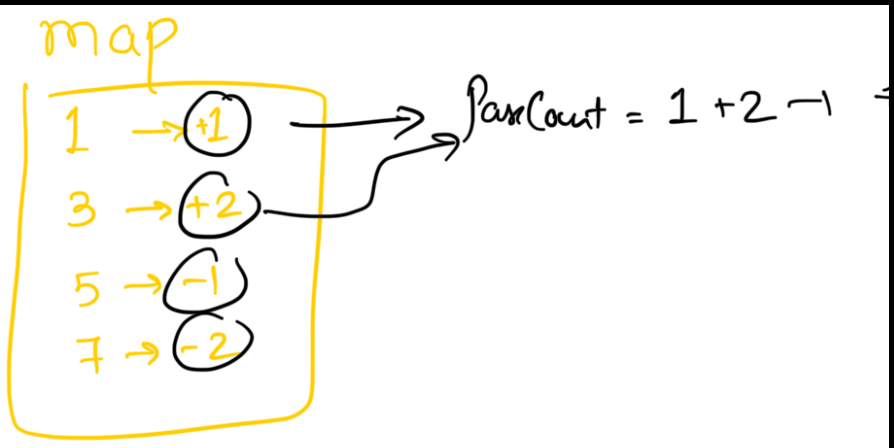
trips = [(1, 1, 5), (2, 3, 7)], capacity = 4



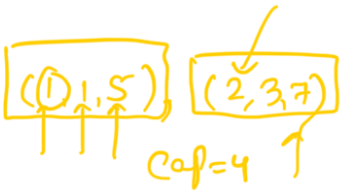
1+2

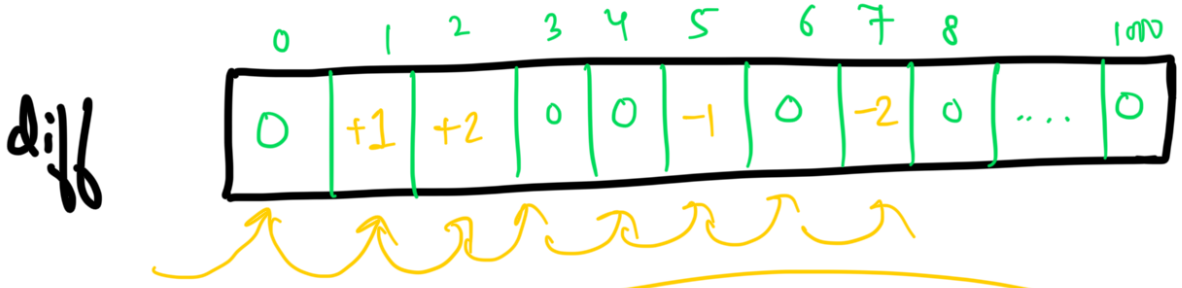
events = {(1, +1), (5, -1), (3, +2), (7, -2)}

sort ways.



Diff Array -





CumSum = 0 +1 +2 +0 +0 −1 +0 −2 ...