Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text

Description automatically generated

Logic:

A picture containing text, gauge, watch, device

Description automatically generated

A picture containing text, clock, gauge

Description automatically generated

We can solve like this. Hence, we used only 2 min platform to solve this. See this will be sorted based on arrival time as we assign platform according to that. We will take a priority queue.

Graphical user interface, application

Description automatically generated

See here we will insert this element with departure time and the exit time. See 2,9 will be compared to priority queue front element. See the arrival 2 is not greater than 5 in front hence insert 9,2 inside the queue.

Graphical user interface, text

Description automatically generated

Now for 6,7 we see 5,1 5 6 is greater than 5 and hence pop 5,1 and insert 7,1.also remember that queue sort this in ascending order to their departure time.

Graphical user interface, text, application

Description automatically generated

Same for 8,10.

Text

Description automatically generated

See like this. here 9,2 will be empty first. See here when we get the ascending departure in priority queue. Hence if coming arrival greater than departure same platform assigned otherwise departure of the new train with current max(max platform assigned) +1.

See here tc will be nlogn for both sorting and insert in priority queue takes logn and n elements are there. but Sc would be O(n). now to optimize space would be o (1).

A picture containing text, blackboard, device, gauge

Description automatically generated

See we will sort both the arrival and the departure time in both the array separately .see put the pointer at 2 in arr and at dep at 5.this will be 2 pointer approach.

A picture containing text

Description automatically generated

Already taken count as 1 as index0 arr train already inserted at platform 1.hence now 2 cannot be inserted as arr[i]<dep[j] and count++.

A picture containing text

Description automatically generated

Now i++ means I at 6 and 6 and 8no issue as departure time 5 and 7.and the remaining 9 10 also no issue.

Code:

