Find Free timing for both of them to meet each other:

Input 1:

time1 = [["9:00", "10:30"], ["12:00", "13:00"],

["16:00", "18:00"]]

limit1 = ["9:00", "20:00"]

work → Start , end

Input 2:

time2 = [["10:00", "11:30"], ["12:30", "14:30"],

["14:30", "15:30"], ["16:00", "17:00"]]

limit2 = ["10:00", "18:30"]

work → Start , end

Output:

[["11:30", "12:00"], ["15:00", "16:00"]

, ["18:00", "18:30"]]

Step ① :

Compute free time for Input 1 :

time 1 = [["9:00" , "10:30"] , ["12:00" , "13:00"]
["16:00" , "18:00"]]

free - time 1 = [["10:30" , "12:00"] , ["13:00" , "16:00"]
, ["18:00" , "20:00"]]

↳ because the limit
for input 1

["9:00" , "20:00"]

Step ② :

Compute free time for Input 2 :

time 2 = [["10:00" , "11:30"] , ["12:30" , "14:30"] ,

free_time1 = [["10:30" , "12:00"],

["13:00" , "16:00"],

["18:00" , "20:00"]]

free_time2 = [["11:30" , "12:30"],

["15:00" , "16:00"],

["17:00" , "18:30"]]

∴ These are the free times the both

would be available.

Step ③ :

[["10:30", "12:00"], ["13:00", "16:00"], ["18:00", "20:00"]]

[["11:30", "12:30"], ["15:00", "16:00"], ["17:00", "18:30"]]

| greater | lower | greater | lower or same | greater | lower |

[["11:30", "12:00"], ["15:00", "16:00"], ["18:00", "18:30"]

∴ so that's it mathematically,

we did it remember the steps.

[∴ go through the code in another file]

Tree_Time 1 [1]

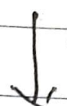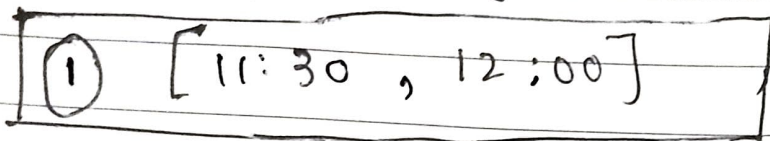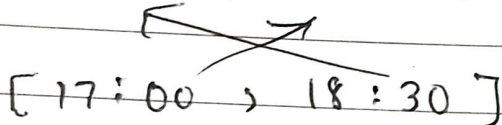$\{ [10:30, 12:00]$ ⤬ $[11:30, 12:30] \}$ $\{ [10:30, 12:00]$ ⤬ $[15:00, 16:00] \}$

(L)   (G)   (G) (X) (G)
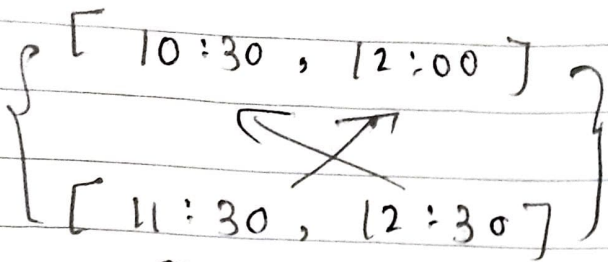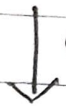
↓ Great   ↓ Low

[(1) [11:30, 12:00]]

[10:30, 12:00] ⤬ [17:00, 18:30]

↓   ↓
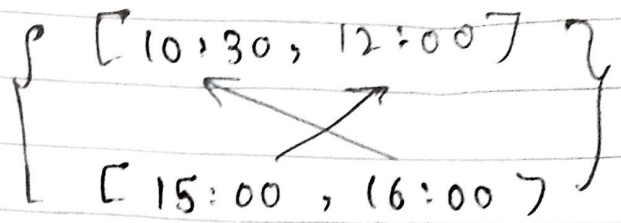
(G) (X) (G)

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(2) Free-Time 1 [2]

[13:00, 16:00] ⤬ [11:30, 12:30]   [13:00, 16:00] ⤬ [15:00, 16:00]

(L)   (L)   (L)   (G)

(X)   ↓ Great   ↓ low

[(2) [15:00, 16:00]]

[13:00, 16:00] ⤬ [17:00, 18:30]

(G)   (G)

(X)
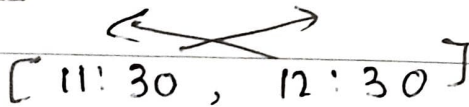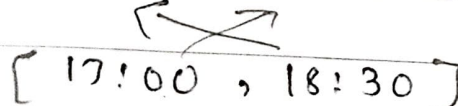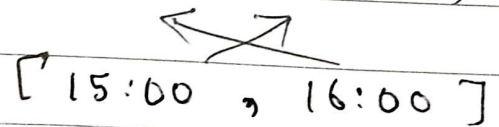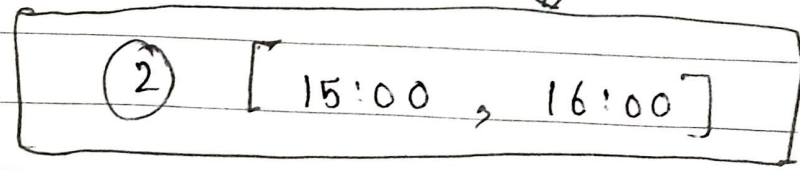
③ free_time1 ['3]

[18:00, 20:00]
⤵⤴
[11:30, 12:30]
Ⓛ   Ⓛ
      Ⓧ

[18:00, 20:00]
⤞⤝
[15:00, 16:00]
Ⓛ   Ⓛ
      Ⓧ

[18:00, 20:00]
⤞⤝
[17:00, 18:30]
Ⓛ   Ⓖ

↓ Great   ↓ low

③ [18:00, 18:30]

[11:30, 12:00] [15:00, 16:00] [18:00, 16:3

∴ That of this is the logic behind
   this

Remember the condition