

3156. Employee Task Duration and Concurrent Tasks

Premium

Hard

Topics

[SQL Schema](#)

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[Pandas Schema](#)

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Table: `Tasks`

Column Name	Type
task_id	int
employee_id	int
start_time	datetime
end_time	datetime

(task_id, employee_id) is the primary key for this table.

Each row in this table contains the task identifier, the employee identifier, and the start and end times of each task.

Write a solution to find the **total duration** of tasks for **each** employee and the **maximum number of concurrent tasks** an employee handled at **any point in time**. The total duration should be **rounded down** to the nearest number of **full hours**.

Return *the result table ordered by* `employee_id` *ascending order*.

The result format is in the following example.

Example:

Input:

Tasks table:

task_id	employee_id	start_time	end_time
1	1001	2023-05-01 08:00:00	2023-05-01 09:00:00
2	1001	2023-05-01 08:30:00	2023-05-01 10:30:00
3	1001	2023-05-01 11:00:00	2023-05-01 12:00:00
7	1001	2023-05-01 13:00:00	2023-05-01 15:30:00
4	1002	2023-05-01 09:00:00	2023-05-01 10:00:00
5	1002	2023-05-01 09:30:00	2023-05-01 11:30:00
6	1003	2023-05-01 14:00:00	2023-05-01 16:00:00

Output:

employee_id	total_task_hours	max_concurrent_tasks
1001	6	2
1002	2	2
1003	2	1

- Explanation:**
- For employee ID 1001:
 - Task 1 and Task 2 overlap from 08:30 to 09:00 (30 minutes).
 - Task 7 has a duration of 150 minutes (2 hours and 30 minutes).
 - Total task time: 60 (Task 1) + 120 (Task 2) + 60 (Task 3) + 150 (Task 7) - 30 (overlap) = 360 minutes = 6 hours.
 - Maximum concurrent tasks: 2 (during the overlap period).
 - For employee ID 1002:
 - Task 4 and Task 5 overlap from 09:30 to 10:00 (30 minutes).
 - Total task time: 60 (Task 4) + 120 (Task 5) - 30 (overlap) = 150 minutes = 2 hours and 30 minutes.
 - Total task hours (rounded down): 2 hours.
 - Maximum concurrent tasks: 2 (during the overlap period).
 - For employee ID 1003:
 - No overlapping tasks.
 - Total task time: 120 minutes = 2 hours.
 - Maximum concurrent tasks: 1.

Note: Output table is ordered by employee_id in ascending order.

Seen this question in a real interview before? 1/5

Yes

No

Accepted

715

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Submissions

1.3K

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Acceptance Rate

53.8%

Topics

Database

Discussion (1)