

SQL Project Planning

You are given a table, *Projects*, containing three columns: *Task_ID*, *Start_Date* and *End_Date*. It is guaranteed that the difference between the *End_Date* and the *Start_Date* is equal to 1 day for each row in the table.

Column	Type
<i>Task_ID</i>	<i>Integer</i>
<i>Start_Date</i>	<i>Date</i>
<i>End_Date</i>	<i>Date</i>

If the *End_Date* of the tasks are consecutive, then they are part of the same project. Samantha is interested in finding the total number of different projects completed.

Write a query to output the start and end dates of projects listed by the number of days it took to complete the project in ascending order. If there is more than one project that have the same number of completion days, then order by the start date of the project.

Sample Input

<i>Task_ID</i>	<i>Start_Date</i>	<i>End_Date</i>
1	2015-10-01	2015-10-02
2	2015-10-02	2015-10-03
3	2015-10-03	2015-10-04
4	2015-10-13	2015-10-14
5	2015-10-14	2015-10-15
6	2015-10-28	2015-10-29
7	2015-10-30	2015-10-31

Sample Output

```
2015-10-28 2015-10-29
2015-10-30 2015-10-31
2015-10-13 2015-10-15
2015-10-01 2015-10-04
```

Explanation

The example describes following *four* projects:

- ♦ *Project 1*: Tasks 1, 2 and 3 are completed on consecutive days, so these are part of the project. Thus start date of project is 2015-10-01 and end date is 2015-10-04, so it took 3 days to complete the project.
- ♦ *Project 2*: Tasks 4 and 5 are completed on consecutive days, so these are part of the project. Thus, the start date of project is 2015-10-13 and end date is 2015-10-15, so it took 2 days to complete the project.
- ♦ *Project 3*: Only task 6 is part of the project. Thus, the start date of project is 2015-10-28 and end date is 2015-10-29, so it took 1 day to complete the project.
- ♦ *Project 4*: Only task 7 is part of the project. Thus, the start date of project is 2015-10-30 and end date is 2015-10-31, so it took 1 day to complete the project.

Solution:

```
SELECT p1.start_date a, MIN(p2.end_date) b
FROM projects p1 JOIN projects p2
ON p1.start_date NOT IN (SELECT end_date FROM projects)
AND p2.end_date NOT IN (SELECT start_date FROM projects)
AND p1.start_date < p2.end_date
GROUP BY a
ORDER BY DATEDIFF(b,a),a;
```