

# Subscription Overlap

## subscriptions table

column	type
user_id	int
start_date	date
end_date	date

Given a table of product subscriptions with a subscription start date and end date for each user, write a query that returns true or false whether each user has a subscription date range that overlaps with any other user.

## Example:

user_id	start_date	end_date
1	2019-01-01	2019-01-31
2	2019-01-15	2019-01-17
3	2019-01-29	2019-02-04
4	2019-02-05	2019-02-10

## Output

user_id	overlap
1	1
2	1
3	1
4	0

## Solution

Overlap dates means .... Start date of table A should come before the end date of table B and similarly end date of table A should come after the start date of table B → then it's a overlap

## Subscription Overlap

```
SELECT u.user_id,CASE WHEN overlap_cnt > 0 THEN 1 ELSE 0 END AS overlap
FROM
  (SELECT u1.user_id,SUM(CASE WHEN u2.user_id IS NULL THEN 0 ELSE 1 END) AS overlap_cnt
   FROM subscriptions AS u1
   JOIN subscriptions AS u2
     ON u1.start_date <= u2.end_date
    AND u1.end_date >= u2.start_date
    AND u1.user_id != u2.user_id
   GROUP BY u1.user_id) AS u
```

output

user\_id overlap

1	1
2	1
3	1
6	1
8	1