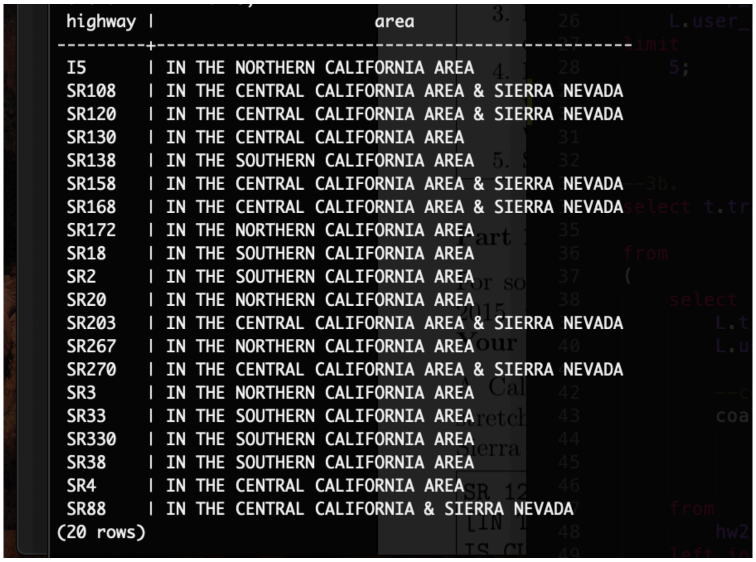
```
--1a.
select highway, area from hw2.caltrans
where condition like '%CLOSED%FOR THE WINTER%' or condition like '%CLOSED%DUE TO SNOW%'
group by highway, area
order by highway, area desc
limit 20;
```



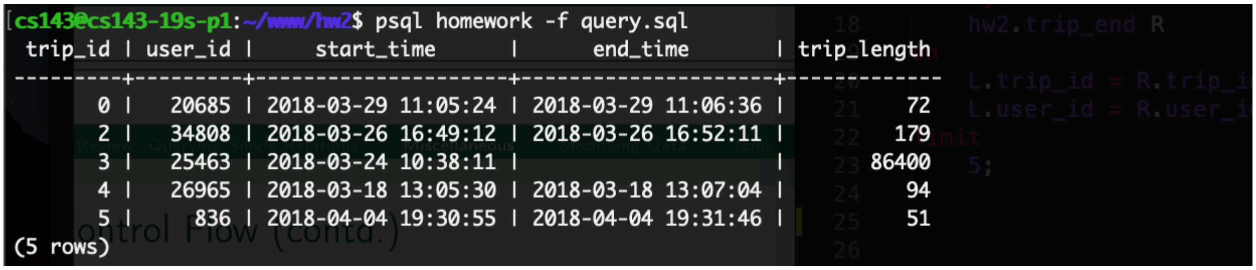
```
 highway |                    area
---------+----------------------------------------------------
 I5      | IN THE NORTHERN CALIFORNIA AREA
 SR108   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR120   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR130   | IN THE CENTRAL CALIFORNIA AREA
 SR138   | IN THE SOUTHERN CALIFORNIA AREA
 SR158   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR168   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR172   | IN THE NORTHERN CALIFORNIA AREA
 SR18    | IN THE SOUTHERN CALIFORNIA AREA
 SR2     | IN THE SOUTHERN CALIFORNIA AREA
 SR20    | IN THE NORTHERN CALIFORNIA AREA
 SR203   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR267   | IN THE NORTHERN CALIFORNIA AREA
 SR270   | IN THE CENTRAL CALIFORNIA AREA & SIERRA NEVADA
 SR3     | IN THE NORTHERN CALIFORNIA AREA
 SR33    | IN THE SOUTHERN CALIFORNIA AREA
 SR330   | IN THE SOUTHERN CALIFORNIA AREA
 SR38    | IN THE SOUTHERN CALIFORNIA AREA
 SR4     | IN THE CENTRAL CALIFORNIA AREA
 SR88    | IN THE CENTRAL CALIFORNIA & SIERRA NEVADA
(20 rows)
```

- -2a.

One thing wrong is cross join is not a type of inner join. Cross join is a cartesian product where inner join only matches based on equality.

```
---3a.
select
        L.trip_id as trip_id,
        L.user_id as user_id,
        --convert to trip_length seconds, if null end time, set total time to 24 hours (in seconds)
   coalesce(((DATE_PART('day', R.time - L.time) * 24 +
            DATE_PART('hour', R.time - L.time)) * 60 +
            DATE_PART('minute', R.time - L.time)) * 60 +
            DATE_PART('second', R.time - L.time), 86400) as trip_length

from
        hw2.trip_start L
left join
        hw2.trip_end R
on
        L.trip_id = R.trip_id AND
        L.user_id = R.user_id
limit
        5;
```

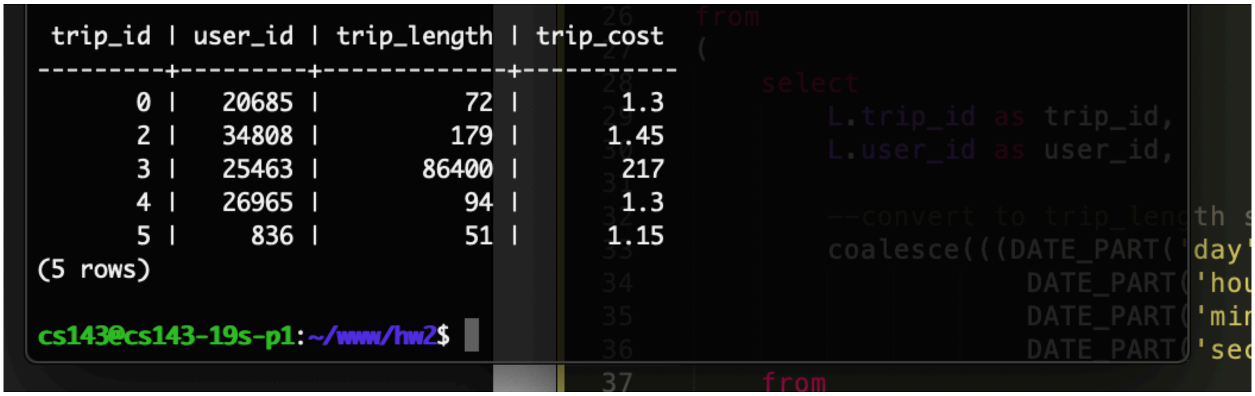


```
cs143@cs143-19s-p1:~/www/hw2$ psql homework -f query.sql
 trip_id | user_id |      start_time     |       end_time      | trip_length
---------+---------+---------------------+---------------------+-------------
       0 |   20685 | 2018-03-29 11:05:24 | 2018-03-29 11:06:36 |          72
       2 |   34808 | 2018-03-26 16:49:12 | 2018-03-26 16:52:11 |         179
       3 |   25463 | 2018-03-24 10:38:11 |                     |       86400
       4 |   26965 | 2018-03-18 13:05:30 | 2018-03-18 13:07:04 |          94
       5 |     836 | 2018-04-04 19:30:55 | 2018-04-04 19:31:46 |          51
(5 rows)
```

```
--3b.
select t.trip_id, t.user_id, t.trip_length, ((ceiling(t.trip_length/60))*0.15) + 1 as trip_charge

from
(
	select
		L.trip_id as trip_id,
		L.user_id as user_id,

		--convert to trip_length seconds, if null end time, set total time to 24 hours (in seconds)
	    coalesce(((DATE_PART('day', R.time - L.time) * 24 +
	                DATE_PART('hour', R.time - L.time)) * 60 +
	                DATE_PART('minute', R.time - L.time)) * 60 +
	                DATE_PART('second', R.time - L.time), 86400) as trip_length
	from
		hw2.trip_start L
	left join
		hw2.trip_end R
	on
		L.trip_id = R.trip_id AND
		L.user_id = R.user_id
) t
limit 5;
```

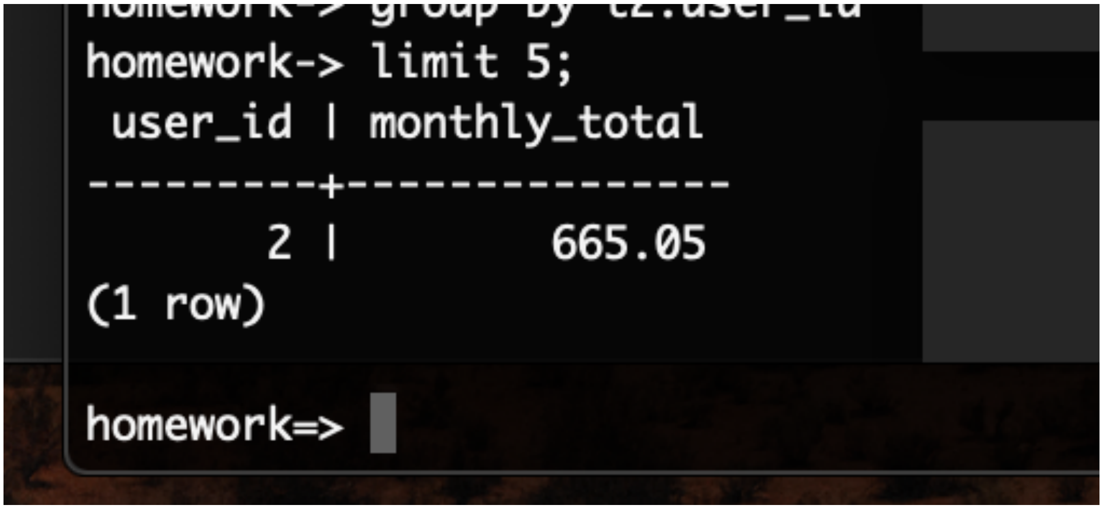


```
 trip_id | user_id | trip_length | trip_cost
---------+---------+-------------+-----------
       0 |   20685 |          72 |       1.3
       2 |   34808 |         179 |      1.45
       3 |   25463 |       86400 |       217
       4 |   26965 |          94 |       1.3
       5 |     836 |          51 |      1.15
(5 rows)

cs143@cs143-19s-p1:~/www/hw2$
```

```
--3c.
select t2.user_id, sum(t2.trip_charge) as monthly_total
from
(
        select t1.trip_id, t1.user_id, t1.trip_length, ((ceiling(t1.trip_length/60))*0.15) + 1 as
trip_charge, t1.time_init
                from
                (
                        select
                                L.trip_id as trip_id,
                                L.user_id as user_id,
                                L.time as time_init,
                                --convert to trip_length seconds, if null end time, set total time to
24 hours (in seconds)
                           coalesce(((DATE_PART('day', R.time - L.time) * 24 +
                                   DATE_PART('hour', R.time - L.time)) * 60 +
                                   DATE_PART('minute', R.time - L.time)) * 60 +
                                   DATE_PART('second', R.time - L.time), 86400) as trip_length
                        from
                                hw2.trip_start L
                        left join
                                hw2.trip_end R
                        on
                                L.trip_id = R.trip_id AND
                                L.user_id = R.user_id
                ) t1
)t2

where
        t2.user_id=2 and extract(month from t2.time_init)=3
group by t2.user_id
limit 5;
```



```
homework-> group by t2.user_id
homework-> limit 5;
 user_id | monthly_total
---------+---------------
       2 |        665.05
(1 row)

homework=> 
```