```sql
select * from `properati-data-public.properties_cl.*`
limit 10;


-- find the share of property_type listings in 2015
select property_type, count(*) as property_cnt, 100 * count(*)/ sum(count(*)) over
() as property_percent
from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015
group by property_type
order by property_percent desc;


select distinct property_type, count(*) over(partition by property_type) as
property_cnt, 100 * count(*) over(partition by property_type) / count(*) over () as
percent
from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015
order by percent desc;



-- find the share of apartment listings in 2015
-- 1. subquery in the select statement
select count(*) / (select count(*) from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015) as apt_portion
from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015 and property_type = 'apartment';



-- 2. using cte
with cte as (
    select property_type, count(*) as property_cnt
    from `properati-data-public.properties_cl.*`
    where extract(year from created_on) = 2015
    group by property_type
)
select property_cnt  / (select sum(property_cnt) from cte) as apt_portion
from cte
where property_type = 'apartment';

-- 3. using case statement - no subquery nor cte.
```

```sql
select count(case when property_type = 'apartment' then 'property_type' end) /
count(*) as apt_portion
from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015;



-- Find the number of houses with price of less then 2000 for each month in 2015
select cheap_tbl.month, cheap_apts / tot_apts as cheap_portion
from
    (
    (select extract(month from created_on) as month, count(*) as cheap_apts
    from `properati-data-public.properties_cl.*`
    where extract(year from created_on) = 2015 and property_type = 'apartment' and
price < 2000
    group by month) cheap_tbl

    left join

    (select extract(month from created_on) as month, count(*) as tot_apts
    from `properati-data-public.properties_cl.*`
    where extract(year from created_on) = 2015 and property_type = 'apartment'
    group by month) tot_tbl

    on cheap_tbl.month = tot_tbl.month
    )

order by month;



-- do the same, but insert the two subq into cte
with cte as (
    select * from(
    select extract(month from created_on) as month_cheap, count(*) as cheap_apts
    from `properati-data-public.properties_cl.*`
    where extract(year from created_on) = 2015 and property_type = 'apartment' and
price < 2000
    group by month_cheap) cheap_tbl
```

```sql
    left join

    (select extract(month from created_on) as month_total, count(*) as tot_apts

    from `properati-data-public.properties_cl.*`

    where extract(year from created_on) = 2015 and property_type = 'apartment'

    group by month_total) tot_tbl

    on cheap_tbl.month_cheap = tot_tbl.month_total
)

select month_cheap as month, cheap_apts / tot_apts from cte

order by month;


--


-- test a case when, with aggregate:
-- For each month in 2015, find the percentage of listings of type house

select extract(month from created_on) as month,
      count(case when property_type = 'apartment' then 'apt' end) as apt_cnt,
      count(*) as total_listings,
      count(case when property_type = 'apartment' then 'apt' end) * 100 / count(*)
as apt_precentage
from `properati-data-public.properties_cl.*`
where extract(year from created_on) = 2015
group by month
order by month;



-- buckets:

-- for listed rentel apartments in chile: calculate how many are sold above and
below the average price
with cte as
(select property_type,
      price,
      case when price > (select avg(price) from
`properati-data-public.properties_cl.*` where property_type = 'apartment' and
operation = 'rent') then 'above_average' else 'below_average' end as ratio
```

```sql
from `properati-data-public.properties_cl.*`
where property_type = 'apartment' and operation = 'rent')

select ratio, count(ratio) / (select count(*) from cte) as relative_ratio
from cte
group by ratio;

-- simplfy into two parts:
-- calculating avg rental price
select avg(price) from `properati-data-public.properties_cl.*` where property_type
= 'apartment' and operation = 'rent';

-- using this number for the bucketing:
-- either with subquery
select ratio, count(ratio) / sum(count(*)) over () as relative_ratio
from
    (select property_type, price, (case when price > 645221 then 'above_average'
else 'below_average' end) as ratio
    from `properati-data-public.properties_cl.*`
    where property_type = 'apartment' and operation = 'rent') subq1
group by ratio;

--or either with cte
with cte as (
    (select property_type, price, (case when price > 645221 then 'above_average'
else 'below_average' end) as ratio
    from `properati-data-public.properties_cl.*`
    where property_type = 'apartment' and operation = 'rent')
    )
select ratio, count(*) / (select count(*) from cte) as relative_ratio
from cte
group by ratio;
```