1) A city is considered too expensive if its average price per sqft is higher than the overall average price per sqft of all cities. Describe each city by one of the statuses: ‘Too expensive’ or ‘Not expensive’

```
with average_price_per_city as
(select city,
avg(price/sqft) as price_per_sqft
from fact_agreements
group by city)
select city,
case when price_per_sqft > 1.25*(select avg(price_per_sqft) from
average_price_per_city) then 'Too expensive'
     else 'Not expensive'
     end status
from average_price_per_city;
```

city	status
NV	Not expensive
WA	Not expensive
NY	Too expensive
FL	Not expensive
LA	Too expensive
CA	Too expensive
TX	Not expensive
VA	Not expensive
IN	Not expensive
OK	Not expensive

2) For each city, find the year-on-year growth rate of 2024 and 2025. The y-o-y growth rate is the growth of the average price per sqft of the current year compared to the previous year.

```
with average_price_per_city as
(select city, purchase_year, avg(price/sqft) as avg_price
from fact_agreements
group by city, purchase_year),

successive_years as
(select city, purchase_year, avg_price,
lag(avg_price) over (partition by city order by purchase_year) as
previous_avg_price
from average_price_per_city)

select distinct t1.city,
(select 100 * (avg_price - previous_avg_price)/previous_avg_price
from successive_years
where purchase_year=2024 and city = t1.city) as yoy_rate_2024,
(select 100 * (avg_price - previous_avg_price)/previous_avg_price
from successive_years
where purchase_year=2025 and city = t1.city) as yoy_rate_2025
from successive_years t1;
```

city	yoy_rate_2024	yoy_rate_2025
CA	2.4493917655484	1.5451994235153
FL	1.2824050242919	3.4182982657399
IN	-0.1095421478822	5.1468056968739
LA	2.1840415449417	1.8975135819969
NV	1.1631915120806	1.9161781432804
NY	2.2002805047826	0.3967861873948
OK	2.4539385848992	-0.1489049317160
TX	2.5193538069677	-0.1096807712290
VA	1.7564874407380	0.2032665455636
WA	0.6101865913470	3.7376674373213

3) Based on the house's purchase year, find the year the loans are paid off for each real estate company

```
with cumulative_purchases as
(select distinct real_estate_company, purchase_year,
SUM(price) OVER (PARTITION BY real_estate_company ORDER BY
purchase_year) AS money_earned
from fact_agreements)

select distinct real_estate_company,
(select min(purchase_year) from cumulative_purchases
where money_earned > loan ) as refund_year
from cumulative_purchases
join dim_real_estate_companies
using(real_estate_company);
```

real_estate_company	refund_year
Berkshire Hathaway HomeServices	2024
Century 21	2024
Coldwell Banker Real Estate	2024
Compass	2023
Electronic Realty Associates	2025
EXIT Realty	2023
eXp Realty	2023
Keller Williams Realty	2023
RE/Max	2023
Sotheby International Realty	2025
Weichert, Realtors	2024