1) Find the most used payment method for each brand

```
with payments_per_brand as
(select brand, payment_method, count(*) as payment_count
from fact_sales
group by brand, payment_method)
select brand, payment_method as preferable_methode
from payments_per_brand pb1
where payment_count =
(select max(payment_count)
from payments_per_brand pb2
where pb2.brand = pb1.brand);
```

brand	preferable_methode
Model 3	Cash
Model S	Cash
Model X	Loan
Model Y	Loan

2) Find the price of each car at the time of sale. Display the two highest prices for each brand

```
with car_prices as
(select vin, brand, TRUNCATE(start_price * power(1 +
monthly_inflation_rate/100 , extract(month from sale_date)-1),0) as
price
from fact_sales
join dim_brands
using(brand))
select distinct brand, price
from (select * , dense_rank() over(partition by brand order by price
desc) as rnk from car_prices) t
where t.rnk <3;
```

brand	price
Model 3	56671
Model 3	56423
Model S	152823
Model S	151806
Model X	147483
Model X	146691
Model Y	52187
Model Y	51984

3) Tesla delivers cars, whose brands are 'model X' and 'model S', on large 60,000-square-foot ships. Since 'model X' has priority, Tesla ships as many 'model X' cars as possible and then uses the remaining square footage to ship the most number of 'model S' cars. Find the number of 'model X' and 'model S' cars that can be shipped on a 60,000-square-foot ship. Output the brand and the number of cars to be shipped

```sql
WITH summary AS (
  SELECT
    brand,
    square_footage,
    SUM(square_footage) AS total_sqft,
    COUNT(*) AS car_count
  from fact_sales
  join dim_brands
  using(brand)
  where brand in ('Model S','Model X')
  GROUP BY brand, square_footage),
model_X AS (
  SELECT
    DISTINCT brand,
    square_footage,
    case when 60000> total_sqft then car_count
    else truncate((60000/total_sqft) * car_count,0) end model_X_count
  FROM summary
  WHERE brand = 'Model X'),
model_S AS (
  SELECT
    DISTINCT brand,
    square_footage,
    case when 60000 - (SELECT model_X_count * square_footage FROM
model_X)  > total_sqft then car_count
    else truncate((60000 - (SELECT model_X_count * square_footage FROM
model_X)) / total_sqft * car_count, 0) end model_S_count
  FROM summary
  WHERE brand = 'Model S')
SELECT brand, model_X_count AS model_count
FROM model_X
UNION ALL
SELECT brand, model_S_count AS model_count
FROM model_S;
```

brand	model_count
Model X	507
Model S	43