```
/*
問題1. 各ユーザーの注文ごとに、同一ユーザー内での注文日時の昇順順位（1位、2位…）
を表示せよ。
*/
select u.name as user_name, o.order_date, p.name as product_name,
row_number() over (partition by o.user_id order by o.order_date) as
order_rank from om orders o
join users u on o.user_id = u.id
join products p on o.product_id = p.id;

/*
問題2. 各都市ごとに最も多く売れた商品名とその販売数を表示せよ。
*/
with product_sales_by_city as (
select u.city, p.name as product_name, sum(o.quantity) as
total_quantity, rank() over (partition by u.city order by
sum(o.quantity) desc) as rnk from orders o
join users u on o.user_id = u.id
join products p on o.product_id = p.id
group bu u.city, p.name
)
select city, product_name, total_quantity from product_sales_by_city
where rnk = 1;


/*
問題3. すべてのユーザーについて、そのユーザーが最後に注文した商品の名前と価格を表
示せよ（1件ずつ）。
*/
with last_order_per_user as (
select *,
row_number() over (partition by user_id order by order_date desc) as
rn
from orders
)
select u.name AS user_name, p.name AS product_name, p.price,
lo.order_date from last_order_per_user lo
join users u on lo.user_id = u.id
join products p on lo.product_id = p.id
where lo.rn = 1;


/*
問題4. 過去に同じ日に2件以上の注文を行ったユーザーとその日付を取得せよ。
*/
select u.name as user_name, o.order_date from orders o
join users u on o.user_id = u.id
group by u.id, u.name, o.order_date
having count(*) >= 2;


/*
```

問題5. 注文数がユーザー全体の平均注文数よりも多いユーザーの名前と注文回数を表示せよ。
*/
```
with user_order_counts as (
select user_id, count(*) as cnt from orders
group by user_id
),
avg_order_count as (
select avg(cnt)::numeric as avg_cnt from user_order_counts
)
select u.name, uoc.cnt from user_order_counts uoc
join users u on u.id = uoc.user_id,
avg_order_count a
where uoc.cnt > a.avg_cnt;
```

```
/*
```
問題6. 各商品について、その商品が最も多く売れた月（年月）と売上金額を表示せよ。
*/
```
with monthly_sales as (
select p.id as product_id, p.name as product_name,
date_trunc('month', o.order_date)::date as month, sum(o.quantity *
p.price) as total_sales,
rank() over (partition by p.id order by sum(o.quantity * p.price)
desc) as rnk from orders o join products p on o.product_id = p.id
group by p.id, p.name, date_trunc('month', o.order_date)
)
select product_name, month, total_sales
from monthly_sales
where rnk = 1;
```

```
/*
```
問題7. 各ユーザーが注文した商品のうち、平均単価（price）より高い商品の注文だけを集計して、ユーザー別の「高価格商品の注文金額合計」を求めよ。
*/
```
with avg_price as (
select avg(price)::numeric as avg_price from products
)
select u.name as user_name, sum(p.price * o.quantity) as
high_price_total from orders o
join users u on o.user_id = u.id
join products p on o.product_id = p.id,
avg_price ap
where p.price > ap.avg_price
group by u.name;
```

```
/*
```
問題8. すべての注文に対して、そのユーザーの累積売上金額（注文日時順）を表示せよ（ユーザー名・注文日・注文金額・累積金額）。
*/

```
select u.name as user_name, o.order_date, p.name as product_name,
(o.quantity * p.price ) as amount, sum(o.quantity * p.price) over
(partition by u.id order by o.order_date) as cumulative_total from
orders o
join users u on o.user_id = u.id
join products p on o.product_id = p.id;
```