Q1 Find the name of the supplier with the most products ordered (the highest quantity of products).

Columns to be included:company_name

With max as (Select company_name,sum(quantity)as qty

From order_details inner join products using (product_id) inner join suppliers using (supplier_id)

group by company_name

order by qty desc

limit 1)

Select company_name

from max

Q2 Specify for each employee, the most requested supplier, and the percentage of most requested supplier products ordered to the all employee's suppliers products ordered. Sort the results by the Employee's Id.

Columns that must be included:employee_id, supplier_name, supplier_products, all_suppliers_products, percentage

with toll as (select employee_id, company_name as supplier_name, sum(quantity) as supplier_products
from order_details inner join products using (product_id) inner join suppliers using (supplier_id) inner join orders using (order_id)
group by employee_id, company_name),

produits as (select sum(supplier_products) as all_suppliers_products
from toll)

select *, cast((supplier_products/all_suppliers_products) as decimal(15,2)) as percentage
from toll,produits
where (employee_id,supplier_products) in (select employee_id,max(supplier_products)as supplier_products from toll group by employee_id)
order by employee_id

Q4 Find for each Shipping Region the Shipper(s) with the most orders processed.

Note:
We consider only the Ship_Regions that have a value - Null values must not be counted.
Order by Ship Region and Shipper name.

Columns to be included:ship_region,shipper_id,company_name,orders_processed

```
with top as (select ship_region , ship_via as shipper_id, company_name, count(order_id) as
orders_processed
from orders inner join shippers on shippers.shipper_id = orders.ship_via
group by ship_region, ship_via, company_name
order by ship_region),

tip as (select max(orders_processed) as orders_processed ,ship_region
from top
where ship_region is not null
group by ship_region)

select ship_region ,  shipper_id, company_name,  top.orders_processed as orders_processed
from top join tip using(ship_region)
where ship_region is not null and tip.orders_processed = top.orders_processed
order by ship_region, company_name
```

Q3. Specify for each product, the Ship_Region(s) with the most products ordered and the number of products ordered in these regions. Sort by the name of the product.

Notes:
1. We consider only the Ship_Regions that have a value - Null values must not be counted.
2. If there are two or more regions with the highest quantity of products ordered, they should be all included.

Columns to be included: product_id, product_name, ship_region, products_ordered

```
with star as (select product_id,product_name,ship_region,sum(quantity) as count, sum(quantity) as
products_ordered
from products join order_details using (product_id) join orders using(order_id)
where ship_region is not null
group by product_id,product_name,ship_region
order by product_id),

def as (select product_id, max(count) as count
from star
group by product_id)

select product_id,product_name,ship_region, products_ordered
from star join def using(product_id)
where star.count = def.count
order by product_name
```

Q6.Find the hardworking employees with at least 3 orders each month in the year 1998. Sort them by their id.

Columns to be included: employee_id

```
with amp as (select employee_id, count(order_id) as tot, extract(month from order_date) as month
from northwind.orders
```

where order_date between '1998-01-01' and '1998-12-31'
group by employee_id, order_date
order by employee_id, month),
zut as (select employee_id, (sum(tot)>=3)as nbre, month
from amp
group by employee_id, month
order by month)

select distinct employee_id
from zut
where (employee_id) not in (
select employee_id
from zut
where nbre =false)
order by employee_id

Q7. Find the order with the most diverse products ordered.

Columns to be included:order_id,different_products

select order_id,count(product_id)as different_products
from order_details
group by order_id
order by different_products desc
limit 1

Q8. Find the products, which are more requested when having a discount than without a discount.
Sort them by their name.

Columns to be included:product_id, product_name, with_discount, without_discount.

With disc as
(select sum(quantity) as sum, product_name, product_id
from order_details inner join products using (product_id)
where discount =0
group by product_name, product_id
order by product_id),

nodisc as
(select sum(quantity)as sumi, product_name, product_id
from order_details inner join products using (product_id)
where discount !=0
group by product_name, product_id
order by product_id)

select disc.product_id,disc.product_name, sumi as with_discount,sum as without_discount
from disc join nodisc using (product_id)
where sum <sumi

Q9.Find the percentage of the discounts from the total income (without discounts) per each month(not per year).

Sort the results by month.

**Column that must be included:month, total_discount, total_without_discount,
discount_percentage.**
**Note : Columns total_discount, total_without_discount, discount_percentage will have to
display <u>only two decimals</u>**

with star as(select extract (month from order_date) as month, sum(quantity*(unit_price *discount)) as
tot ,(sum(quantity*unit_price)) as total_without_discount
from order_details inner join orders using (order_id)
group by month)

select month, cast((tot) as decimal(15,2)) as total_discount, cast((total_without_discount) as decimal
(15,2)) as total_without_discount, cast ((((tot))/(total_without_discount)) as decimal (15,2)) as
discount_percentage
from star
order by month

Q5 Find for each Shipping Region the Shipper(s) with NO orders processed.

Note:
We consider only the Ship_Regions that have a value - Null values must not be counted.
Order by Ship Region and Shipper Id.

Columns to be included:ship_region, shipper_id

Select distinct ship_region, shipper_id
From orders, shippers
where ship_region is not null and (ship_region, shipper_id) not in (select ship_region, shipper_id
From orders inner join shippers on orders.ship_via = shippers.shipper_id
where ship_region is not null
Order by ship_region, shipper_id)
Order by ship_region, shipper_id