

# Base de données Northwind

## SQL

- (1) 

```
select e.FirstName, e.LastName, e.Address, e.City, e.Region
from Employees e
```
- (2) 

```
select distinct e.FirstName, e.LastName, c.CompanyName
from Employees e, Orders o, Customers c, Shippers s
where e.EmployeeID = o.EmployeeID
and o.CustomerID = c.CustomerID
and o.ShipVia = s.ShipperID and c.City = 'Bruxelles'
and s.CompanyName = 'Speedy Express'
```
- (3) 

```
select distinct e.Title, e.FirstName, e.LastName
from Employees e, Orders o, 'Order Details' od, Products p
where e.EmployeeID = o.EmployeeID
and o.OrderID = od.OrderID
and od.ProductID = p.ProductID
and ( p.ProductName = 'Gravad Lax' or p.ProductName = 'Mishi Kobe Niku' )
```
- (4) 

```
select distinct E.Title, E.LastName, M.Title, M.LastName
from Employees E, Employees M
where E.ReportsTo = M.EmployeeID
```
- (5) 

```
select distinct C.CompanyName, ProductName, S.CompanyName
from Customers C, Orders O, 'Order Details' D, Products P, Suppliers S
where C.City = 'London' and C.CustomerID = O.CustomerID
and O.OrderID = D.OrderID and D.ProductID = P.ProductID
and P.SupplierID = S.SupplierID
and ( S.CompanyName = 'Pavlova, Ltd.' or S.CompanyName = 'Karkki Oy' )
```
- (6) 

```
select P.ProductName
from Employees E, Orders O, 'Order Details' D, Products P
where E.EmployeeID = O.EmployeeID
and O.OrderID = D.OrderID
and D.ProductID = P.ProductID
and E.City = 'London'
union
select P.ProductName
from Customers C, Orders O, 'Order Details' D, Products P
where C.CustomerID = O.CustomerID
and O.OrderID = D.OrderID
and D.ProductID = P.ProductID
and C.City = 'London'
```

Autre version

```

select P.ProductName
from Products P
where P.ProductID in
    ( select D.ProductID
      from Employees E, Orders O, 'Order Details' D
      where E.EmployeeID = O.EmployeeID
            and O.OrderID = D.OrderID
            and E.City = 'London' )
OR P.ProductID in
    ( select D.ProductID
      from Customers C, Orders O, 'Order Details' D
      where C.CustomerID = O.CustomerID
            and O.OrderID = D.OrderID
            and C.City = 'London' )

```

Autre version

```

select distinct P.ProductName
from Employees E, Orders O, 'Order Details' D, Products P, Customers C
where E.EmployeeID = O.EmployeeID
and C.CustomerID = O.CustomerID
and O.OrderID = D.OrderID
and D.ProductID = P.ProductID
and (E.City = 'London' or C.City = 'London')

```

- (7) (a) 

```

select E1.FirstName, E1.LastName
from Employees E1
where E1.BirthDate < any
    ( select E2.BirthDate
      from Employees E2
      where E2.City = 'London' )

```
- (b) 

```

select E1.FirstName, E1.LastName
from Employees E1
where E1.BirthDate < all
    ( select E2.BirthDate
      from Employees E2
      where E2.City = 'London')

```
- (8) 

```

select E1.FirstName, E1.LastName
from Employees E1
where E1.HireDate < all
    ( select E2.HireDate
      from Employees E2
      where E2.City = 'London' )

```

(9) select distinct E.LastName, E.City  
from Employees E, Orders O, Customers C  
where E.EmployeeID = O.EmployeeID  
and O.CustomerID = C.CustomerID  
and E.City = C.City

Autre version avec in

```
select E1.FirstName, E1.LastName
from Employees E
where E.EmployeeID in
( select O.EmployeeID
  from Orders O, Customers C
  where E.EmployeeID = O.EmployeeID
  and O.CustomerID = C.CustomerID
  and E.City = C.City )
```

Autre version avec exists

```
select distinct E.LastName, E.City
from Employees E
where exists
( select *
  from Orders O, Customers C
  where E.EmployeeID = O.EmployeeID
  and O.CustomerID = C.CustomerID
  and E.City = C.City )
```

(10) select distinct C.CompanyName  
from Customers C  
where not exists  
( select \*  
 from Orders O  
 where C.CustomerID = O.CustomerID )

Autre version avec not in

```
select distinct C.CompanyName
from Customers C
where C.CustomerID not in
( select O.CustomerID
  from Orders O )
```

(11) select C.CompanyName  
from Customers C  
where not exists

```

( select *
  from Products P
  where not exists
    ( select * from
      Orders O, 'Order Details' D
      where C.CustomerID = O.CustomerID
      and O.OrderID = D.OrderID
      and P.ProductID = D.ProductID ) )

```

Autre version avec group by et having

```

select distinct C.CompanyName
from Customers C, Orders O, 'Order Details' D
where C.CustomerID = O.CustomerID
and O.OrderID = D.OrderID
group by C.CustomerID, C.CompanyName
having count(distinct D.ProductID) =
  ( select count(*)
    from Products P2 )

```

```

(12) select P.ProductName
      from Products P
      where not exists
        ( select *
          from Employees E
          where not exists
            ( select * from
              Orders O, 'Order Details' D
              where E.EmployeeID = O.EmployeeID
              and O.OrderID = D.OrderID
              and P.ProductID = D.ProductID ) )

```

Autre version avec group by et having

```

select distinct P.ProductName
from Products P
where P.ProductID in
  ( select D.ProductID
    from Orders O, 'Order Details' D
    where O.OrderID = D.OrderID
    group by D.ProductID
    having count(distinct O.EmployeeID) =
      ( select count(*)
        from Employees ) )

```

```

(13) select C.CustomerID, C.CompanyName
      from Customers C

```

```

where not exists
( select *
  from Orders O1, 'Order Details' D1
  where O1.OrderID = D1.OrderID and O1.CustomerID = 'LAZYK'
  and not exists
    ( select *
      from Orders O2, 'Order Details' D2
      where C.CustomerID = O2.CustomerID and O2.OrderID = D2.OrderID
      and D1.ProductID = D2.ProductID ) )
order by C.CustomerID

```

Autre version

```

select C.CustomerID, C.CompanyName
from Customers C
where CustomerID <> 'LAZYK'
and not exists
( select *
  from 'Order Details' D1
  where D1.ProductID in
    ( select D2.ProductID
      from Orders O2, 'Order Details' D2
      where O2.OrderID = D2.OrderID
      and O2.CustomerID = 'LAZYK' )
  and not exists
    ( select *
      from Orders O3, 'Order Details' D3
      where C.CustomerID = O3.CustomerID
      and O3.OrderID = D3.OrderID
      and D1.ProductID = D3.ProductID ) )
order by C.CustomerID

```

```

(14) select C.CustomerID, C.CompanyName
from Customers C
where CustomerID <> 'LAZYK'
and not exists
( select *
  from Orders O1, 'Order Details' D1
  where O1.OrderID = D1.OrderID and O1.CustomerID = 'LAZYK'
  and not exists
    ( select *
      from Orders O2, 'Order Details' D2
      where C.CustomerID = O2.CustomerID and O2.OrderID = D2.OrderID
      and D1.ProductID = D2.ProductID ) )
and not exists
( select *

```

```

    from Orders O3, 'Order Details' D3
    where C.CustomerID = O3.CustomerID and O3.OrderID = D3.OrderID
    and not exists
      ( select *
        from Orders O4, 'Order Details' D4
        where O4.CustomerID = 'LAZYK' and O4.OrderID = D4.OrderID
        and D3.ProductID = D4.ProductID ) )
    order by C.CustomerID

```

(15) select CategoryID, 'Avg' = avg(UnitPrice)  
from Products  
group by CategoryID

(16) select C.CategoryName, avg(P.UnitPrice)  
from Products P, Categories C  
where P.CategoryID = C.CategoryID  
group by C.CategoryName

(17) select S.SupplierID, S.CompanyName  
from Suppliers S, Products P  
where S.SupplierID = P.SupplierID  
group by S.SupplierID, S.CompanyName  
having count(\*) > 3

(18) select E.EmployeeID, E.LastName,  
'Sales' = sum((D.UnitPrice\*D.Quantity)\*(1-Discount))  
from Employees E, Orders O, 'Order Details' D  
where E.EmployeeID = O.EmployeeID  
and O.OrderID = D.OrderID  
group by E.EmployeeID, E.LastName  
order by E.EmployeeID

(19) select E.EmployeeID, E.LastName,  
'Sales' = sum((D.UnitPrice\*D.Quantity)\*(1-Discount))  
from Employees E, Orders O, 'Order Details' D  
where E.EmployeeID = O.EmployeeID  
and O.OrderID = D.OrderID  
group by E.EmployeeID, E.LastName  
having count(distinct D.ProductID) > 70  
order by E.EmployeeID

(20) select E.FirstName, E.LastName  
from Employees E  
where E.EmployeeID in  
( select distinct O.EmployeeID  
from Orders O, 'Order Details' D, Products P  
where O.OrderID = D.OrderID  
and D.ProductID = P.ProductID

```
group by O.EmployeeID
having count(distinct P.SupplierID)>7 )
```

Autre version

```
select E.FirstName, E.LastName
from Employees E, Orders O, 'Order Details' D, Products P
where E.EmployeeID = O.EmployeeID
and O.OrderID = D.OrderID
and D.ProductID = P.ProductID
group by O.EmployeeID, E.FirstName, E.LastName
having count(distinct P.SupplierID)>7 )
```

(21) 

```
select distinct C.CompanyName, P.ProductName
from Customers C, Orders O, 'Order Details' D1, Products P
where C.CustomerID = O.CustomerID
and O.OrderID = D1.OrderID
and D1.ProductID = P.ProductID
and D1.Quantity >
( select 5*avg(Quantity)
  from 'Order Details' D2
  where D1.ProductID = D2.ProductID )
order by C.CompanyName, P.ProductName
```

Autre version de la requête : la somme totale doit être supérieure à 5 fois la moyenne

```
select C.CompanyName, P.ProductName
from Customers C, Orders O, 'Order Details' D1, Products P
where C.CustomerID = O.CustomerID
and O.OrderID = D1.OrderID
and D1.ProductID = P.ProductID
group by C.CompanyName, P.ProductID, P.ProductName
having sum(D1.Quantity) >
( select 5*avg(Quantity)
  from 'Order Details' D2
  where P.ProductID = D2.ProductID )
order by C.CompanyName, P.ProductName
```

Requête	Nombre Réponses
1	9
2	2
3	6
4	8
5	9
6	76
7	a) 8 b) 3
8	4
9	6
10	2
11	0
12	27
13	10
14	0
15	8
16	8
17	4
18	9
	Davolio 192 107
19	3
20	9
21	3