

Base de données Northwind

SQL

- (1)

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

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

```
select distinct Title, FirstName, LastName
from Employees, Orders, [Order Details], Products
where Employees.EmployeeID = Orders.EmployeeID
and Orders.OrderID = [Order Details].OrderID
and [Order Details].ProductID = Products.ProductID
and ( ProductName = 'Gravad Lax' or 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 où 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