

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
union
select distinct E.Title, E.LastName, NULL, NULL
from Employees E
where ReportsTo IS NULL

Autre version

select distinct E.Title, E.LastName, M.Title, M.LastName
from Employees E left outer join Employees M on 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 UnitPrice < 5
    and 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, Products P
 where C.CustomerID = O.CustomerID
 and O.OrderID = D.OrderID
 and D.ProductID = P.ProductID
 and P.UnitPrice < 5
 group by C.CustomerID, C.CompanyName
 having count(distinct D.ProductID) =
    ( select count(*)
      from Products P2 where UnitPrice < 5 )

```

```

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