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
    and not exists
      ( select *
        from Orders O2, [Order Details] D2
        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
    and not exists
    ( select *
      from Orders O2, [Order Details] D2
      where O2.OrderID = D2.OrderID
      and O2.CustomerID = 'LAZYK'
    )
  )
( select *
    from Orders O2, [Order Details] D2
    and D1.ProductID = D2.ProductID )
and not exists
( select *
    from Orders O3, [Order Details] D3
    and not exists
        ( select *
            from Orders O4, [Order Details] D4
) 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
and D1.Quantity >
  ( select 5*avg(Quantity)
      from [Order Details] D2
      where D1.ProductID = D2.ProductID )
order by C.CompanyName, P.ProductName
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