select \* from Employee

select \* from Orders

select \* from OrderDetails

select \* from Products

select \* from Suppliers

select \* from Shippers

--1. Get the firstname and lastname of the employees who placed orders between 15th August,1996

-- and 15th August,1997

Select distinct Employee.EmployeeID, Employee.FirstName,Employee.LastName

from Employee inner join Orders on Employee.EmployeeID=Orders.EmployeeID

where OrderDate between '1996-08-15' and '1997-08-15'; --9

--2. Get the distinct EmployeeIDs who placed orders before 16th October,1996

select distinct EmployeeID

from Orders as o

where o.OrderDate < '1996-10-16';

--3. How many products were ordered in total by all employees between 13th of January,1997 and

-- 16th of April,1997.

select count(distinct ProductID)

from Orders as o inner join OrderDetails as od on o.OrderID = od.OrderID

where OrderDate between '1997-01-13' and '1997-04-16'; --69

--4. What is the total quantity of products for which Anne Dodsworth placed orders between

-- 13th of January,1997 and 16th of April,1997.

select sum( Quantity)

from Orders as o inner join OrderDetails as od on o.OrderID = od.OrderID

where (OrderDate between '1997-01-13' and '1997-04-16') and (EmployeeID =

( select EmployeeID from Employee where FirstName='Anne' and LastName='Dodsworth')) --189

--5. How many orders have been placed in total by Robert King

select count( distinct o.OrderID)

from Orders as o inner join OrderDetails as od on o.OrderID = od.OrderID

where EmployeeID = ( select EmployeeID from Employee where FirstName='Robert' and LastName='King')--72

--6. How many products have been ordered by Robert King between 15th August,1996 and 15th August,1997

select count( distinct ProductID)

from Orders as o inner join OrderDetails as od on o.OrderID = od.OrderID

where (OrderDate between '1996-08-15' and '1997-08-15') and (EmployeeID =

( select EmployeeID from Employee where FirstName='Robert' and LastName='King'))--51

--7. I want to make a phone call to the employees to wish them on the occasion of Christmas who

-- placed orders between 13th of January,1997 and 16th of April,1997.

-- I want the EmployeeID, Employee Full Name, HomePhone Number.

select distinct e.EmployeeID, FirstName + ' '+ Lastname as Names, HomePhone

from (Orders as o inner join OrderDetails as od on o.OrderID = od.OrderID) inner join

Employee as e on e.EmployeeID= o.EmployeeID

where OrderDate between '1997-01-14' and '1997-04-15' --9

--8. Which product received the most orders. Get the product's ID and Name and number of

-- orders it received.

select top(1) OrderDetails.ProductID,Products.ProductName,count(\*) as Number\_of\_orders

from OrderDetails inner join Products on OrderDetails.ProductID= Products.ProductID

group by OrderDetails.ProductID, Products.ProductName

order by count(\*) desc --59

--9. Which are the least shipped products. List only the top 5 from your list.

select top(5) od.ProductID, count( o.ShippedDate)

from Orders as o inner join OrderDetails as od on o.OrderID= od.OrderID

group by od.ProductID

order by count(o.ShippedDate) ---9,15,48,37,66

--10. What is the total price that is to be paid by Laura Callahan for the order

-- placed on 13th of January,1997

select (Quantity\*UnitPrice)\*( 1- Discount) as Total\_price

from (Orders as o inner join OrderDetails as od on o.OrderID= od.OrderID) inner join

Employee as e on o.EmployeeID= e.EmployeeID

where OrderDate = '1997-01-13' and FirstName='Laura' and LastName='Callahan' ---334.8

--11. How many number of unique employees placed orders for Gorgonzola Telino or

-- Gnocchi di nonna Alice or Raclette Courdavault or Camembert Pierrot in the month January,1997

select count(distinct EmployeeID)

from (Orders as o inner join OrderDetails as od on o.OrderID= od.OrderID) inner join

Products as p on od.ProductID= p.ProductID

where ProductName IN ('Gorgonzola Telino','Gnocchi di nonna Alice', 'Raclette Courdavault',

'Camembert Pierrot') and OrderDate between'1997-01-01' and '1997-01-31' ---9

--12. What is the full name of the employees who ordered Tofu between 13th of January,1997 and

-- 30th of January,1997

select FirstName + ' '+ LastName as FullName

from (Orders as o inner join OrderDetails as od on o.OrderID= od.OrderID) inner join Products as p

on od.ProductID= p.ProductID inner join Employee on Employee.EmployeeID= o.EmployeeID

where ProductName='Tofu' and OrderDate between '1997-01-13' and '1997-01-30' -- Laura , Margaret

--13. What is the age of the employees in days, months and years who placed orders during the month of August. Get employeeID and full name as well

select e.EmployeeID, FirstName+' '+LastName as FullName, DATEDIFF(year,e.BirthDate, GETDATE()) as

age\_in\_years, DATEDIFF(month,e.BirthDate, GETDATE()) as age\_in\_months,

DATEDIFF(day,e.BirthDate, GETDATE()) as age\_in\_days

from Employee as e inner join Orders as o on e.EmployeeID=o.EmployeeID

where month(OrderDate)='08' --58

--14. Get all the shipper's name and the number of orders they shipped

select s.CompanyName,count(distinct OrderID)

from Orders as o inner join Shippers as s on o.ShipperID=s.ShipperID

where ShippedDate is not null

group by s.CompanyName--255,249,326

--15. Get the all shipper's name and the number of products they shipped.

select count(distinct ProductID)

from (Orders as o inner join OrderDetails as od on o.OrderID=od.OrderID) inner join

Shippers as s on s.ShipperID=o.ShipperID

group by s.ShipperID --77,77,77

--16. Which shipper has bagged most orders. Get the shipper's id, name and the number of orders.

select top(1) s.ShipperID,s.CompanyName,count(distinct OrderID) as number\_of\_orders

from Orders as o inner join Shippers as s on o.ShipperID=s.ShipperID

group by s.ShipperID,s.CompanyName

order by count(distinct OrderID) desc ---United Package

--17. Which shipper supplied the most number of products between 10th August,1996 and

-- 20th September,1998. Get the shipper's name and the number of products.

select s.ShipperID,count(distinct ProductID)

from (orders as o inner join OrderDetails as od on o.OrderID=OD.OrderID) INNER JOIN

Shippers as s on s.ShipperID=o.ShipperID

where OrderDate between '1996-08-10' and '1998-09-20'

group by s.ShipperID

order by count(distinct ProductID) DESC

--18. Which employee didn't order any product 4th of April 1997

select EmployeeID FROM Employee where EmployeeID not in (select e.EmployeeID

from (Employee as e left join Orders as o on e.EmployeeID=o.EmployeeID) inner join

OrderDetails as od on od.OrderID=o.OrderID

where o.OrderDate='1997-04-04'

group by e.EmployeeID) ---except 7

--19. How many products where shipped to Steven Buchanan

select count(distinct ProductID)

from (Employee as e inner join Orders as o on e.EmployeeID=o.EmployeeID ) inner join

OrderDetails as od on od.OrderID= o.OrderID

where e.FirstName='Steven' and e.LastName='Buchanan' and ShippedDate is not NULL

group by e.EmployeeID --52

--20. How many orders where shipped to Michael Suyama by Federal Shipping

select count(distinct o.OrderID)

from (Employee as e inner join Orders as o on e.EmployeeID=o.EmployeeID ) inner join

OrderDetails as od on od.OrderID= o.OrderID inner join Shippers as s on s.ShipperID=o.ShipperID

where e.FirstName='Michael' and e.LastName='Suyama' and s.CompanyName='Federal Shipping'

and o.ShippedDate is not null

group by e.EmployeeID --18

--21. How many orders are placed for the products supplied from UK and Germany

select count(distinct OrderID)

from OrderDetails as od inner join Products as p on od.ProductID=p.ProductID inner join

Suppliers as su on su.SupplierID=p.SupplierID

where su.Country IN ('UK','Germany') --385

--22. How much amount Exotic Liquids received due to the order placed for its products in

-- the month of January,1997

select sum(od.Quantity\*od.UnitPrice)

from Suppliers as su inner join Products as p on su.SupplierID=p.SupplierID inner join

OrderDetails as od on od.ProductID=p.ProductID inner join Orders as o on o.OrderID=od.OrderID

where o.OrderDate between '1997-01-01' and '1997-01-31' and su.CompanyName='Exotic Liquids'

--1800

--23. In which days of January, 1997, the supplier Tokyo Traders haven't received any orders.

select distinct OrderDate from Orders where OrderDate not in(

select o.OrderDate

from suppliers as su inner join products as p on p.SupplierID=su.SupplierID inner join

OrderDetails as od on od.ProductID=p.ProductID inner join orders as o on o.OrderID= od.OrderID

where su.CompanyName='Tokyo Traders' and o.OrderDate between '1997-01-01' and '1997-01-31') and

month(OrderDate)='01' and year(OrderDate)='1997' --21 rows

--24. Which of the employees did not place any order for the products supplied by Ma Maison

-- in the month of May

select EmployeeID from Employee where EmployeeID not in (

select distinct e.EmployeeID

from suppliers as su inner join products as p on p.SupplierID=su.SupplierID

inner join OrderDetails as od on od.ProductID=p.ProductID

inner join orders as o on o.OrderID= od.OrderID inner join Employee as e on e.EmployeeID=o.EmployeeID

where su.CompanyName='Ma Maison' and month(o.OrderDate)='05') --except 1,5

--25. Which shipper shipped the least number of products for the month of September and October,

-- 1997 combined.

select top(1) sh.ShipperID,sh.CompanyName, count( distinct p.ProductID) as products\_shipped

from suppliers as su inner join products as p on p.SupplierID=su.SupplierID inner join

OrderDetails as od on od.ProductID=p.ProductID

inner join orders as o on o.OrderID= od.OrderID inner join

Employee as e on e.EmployeeID=o.EmployeeID inner join Shippers as sh on sh.ShipperID=o.ShipperID

where ((month(o.OrderDate) in ('09','10')) and (year(o.OrderDate) ='1997')) and

o.ShippedDate is not null

group by sh.ShipperID, sh.CompanyName

order by count(distinct p.ProductID) --Federal Shipping

--26. What are the products that weren't shipped at all in the month of August, 1997

select ProductName from Products where ProductID not in (

select distinct od.ProductID

from orders as o inner join OrderDetails as od on od.OrderID=o.OrderID

where o.OrderDate between '1997-08-01' and '1997-08-31' and o.ShippedDate is not null

) --24

--27. What are the products that weren't ordered by each of the employees. List each employee and

-- the products that he didn't order.

create view AllProducts as

select E.EmployeeID, P.ProductID from Employee E

right join Products P on 1=1

group by E.EmployeeID, P.ProductID;

create view Ordered as

select E.EmployeeID, OD.ProductID from Employee E

inner join Orders O on O.EmployeeID = E.EmployeeID

inner join OrderDetails OD on OD.OrderID = O.OrderID

group by E.EmployeeID, OD.ProductID

select \* from AllProducts as al

where al.ProductID not in (select EP.ProductID from Ordered EP

where EP.EmployeeID = al.EmployeeID

and EP.ProductID = al.ProductID)

order by EmployeeID --105 rows

--28. Who is busiest shipper in the months of April, May and June during the year 1996 and 1997

select top(1) o.ShipperID,sh.CompanyName, count(distinct o.OrderID) as order\_count

from Shippers as sh inner join Orders as o on o.ShipperID=sh.ShipperID

where month(o.ShippedDate) in ('04','05','06') and year (o.OrderDate) in ('1996','1997') and

ShippedDate is not null

group by o.ShipperID, sh.CompanyName

order by order\_count desc --UNITED PACKAGE

--29. Which country supplied the maximum products for all the employees in the year 1997

select top(1) s.Country, count( distinct p.ProductID) as products\_supplied

from orders as o inner join OrderDetails as od on od.OrderID= o.OrderID inner join

Products as p on p.ProductID=od.ProductID inner join Suppliers as s on s.SupplierID=p.SupplierID

where year(o.OrderDate)='1997'

group by s.Country

order by count( distinct p.productID) desc ---USA 12

--30. What is the average number of days taken by all shippers to ship the

-- product after the order has been placed by the employees

select sh.CompanyName,avg( Datediff(day,o.OrderDate,o.ShippedDate))

from orders as o inner join Shippers as sh on sh.ShipperID=o.ShipperID

group by sh.CompanyName

--31. Who is the quickest shipper of all.

select top(1) shippers.ShipperID,shippers.CompanyName,avg(datediff( day, OrderDate, ShippedDate))

as diff

from orders inner join Shippers on Orders.ShipperID=Shippers.ShipperID

where ShippedDate is not null

group by Shippers.ShipperID, Shippers.CompanyName

order by diff --Federal Shipping

--32. Which order took the least number of shipping days. Get the orderid,

-- employees full name, number of products, number of days took to ship and shipper company name.

select o.OrderID,e.FirstName + ' '+e.LastName as FUllname,count(distinct od.ProductID) as

number\_of\_products,avg(datediff(day,o.OrderDate,o.ShippedDate)) as diff

from orders as o inner join Employee as e on o.EmployeeID=e.EmployeeID inner join OrderDetails as

od on od.OrderID=o.OrderID

where ShippedDate is not null

group by o.OrderID,e.FirstName,e.Lastname

having avg(datediff(day,o.OrderDate,o.ShippedDate))= ( select min(datediff(day,OrderDate,ShippedDate))

from Orders)

order by diff --18 rows

--'Unions'

--1. Which orders took the least number and maximum number of shipping days. Get the orderid,

-- employees full name, number of products, number of days taken to ship the product and

-- shipper company name. Use 1 and 2 in the final result set to distinguish the 2 orders.

select o.OrderID,e.FirstName + ' '+e.LastName as FUllname,count(distinct od.ProductID) as

number\_of\_products, avg(datediff(day,o.OrderDate,o.ShippedDate)) as diff

from orders as o inner join Employee as e on o.EmployeeID=e.EmployeeID inner join

OrderDetails as od on od.OrderID=o.OrderID

where ShippedDate is not null

group by o.OrderID,e.FirstName,e.Lastname

having avg(datediff(day,o.OrderDate,o.ShippedDate))= ( select min(datediff(day,OrderDate,ShippedDate))

from Orders)

UNION

select o.OrderID,e.FirstName + ' '+e.LastName as FUllname,count(distinct od.ProductID) as

number\_of\_products, avg(datediff(day,o.OrderDate,o.ShippedDate)) as diff

from orders as o inner join Employee as e on o.EmployeeID=e.EmployeeID inner join

OrderDetails as od on od.OrderID=o.OrderID

where ShippedDate is not null

group by o.OrderID,e.FirstName,e.Lastname

having avg(datediff(day,o.OrderDate,o.ShippedDate))= ( select max(datediff(day,OrderDate,ShippedDate))

from Orders)

order by diff;

--2. Which is cheapest and the costliest of products purchased in the second week of October,1997.

-- Get the product ID, product Name and unit price. Use 1 and 2 in the final result set to

-- distinguish the 2 products.

select distinct p.ProductID, p.ProductName, p.UnitPrice

from orders as o inner join OrderDetails as od on o.OrderID=od.OrderID

inner join products as p on p.ProductID=od.ProductID

where o.OrderDate between '1997-10-05' and '1997-10-11' and p.UnitPrice =

(select min(p.UnitPrice) from orders as o inner join OrderDetails as od on o.OrderID=od.OrderID

inner join products as p on p.ProductID=od.ProductID where o.OrderDate between '1997-10-05' and

'1997-10-11')

group by p.ProductID,p.ProductName,p.UnitPrice

union

select distinct p.ProductID, p.ProductName, p.UnitPrice

from orders as o inner join OrderDetails as od on o.OrderID=od.OrderID

inner join products as p on p.ProductID=od.ProductID

where o.OrderDate between '1997-10-05' and '1997-10-11' and p.UnitPrice =

(select max(p.UnitPrice) from orders as o inner join OrderDetails as od on o.OrderID=od.OrderID

inner join products as p on p.ProductID=od.ProductID where o.OrderDate between '1997-10-05' and

'1997-10-11')

group by p.ProductID,p.ProductName,p.UnitPrice

order by p.UnitPrice;

--'Case'

--1. Find the distinct shippers who are to ship the orders placed by employees with IDs 1, 3, 5, 7

-- Show the shipper's name as "Express Speedy" if the shipper's ID is 2 and "United Package"

-- if the shipper's ID is 3 and " Shipping Federal" if the shipper's ID is 1.

select distinct o.ShipperID,

case

WHEN o.shipperID='1' THEN 'Shipping Federal'

WHEN o.shipperID='2' THEN 'United Package'

WHEN o.shipperID='3' THEN 'Express Speedy'

else 'Shipper name'

end as Shipper\_Name

from Orders as o

where o.EmployeeID in ('1','2','3','5','7')