1. Tulis query untuk mendapatkan jumlah customer tiap bulan yang melakukan order pada tahun 1997.
SELECT DATENAME(month, o.OrderDate) AS [Month], COUNT(DISTINCT c.CustomerID) AS [Number of Customers]
FROM Orders o
INNER JOIN Customers c ON o.CustomerID = c.CustomerID -- additional step to ensure the records match in both tables
WHERE YEAR(o.OrderDate) = 1997
GROUP BY MONTH(o.OrderDate), DATENAME(month, o.OrderDate)
ORDER BY MONTH(o.OrderDate);

	Month	Number of Customers
1	January	27
2	February	21
3	March	24
4	April	27
5	May	26
6	June	25
7	July	25
8	August	30
9	September	27
10	October	28
11	November	27
12	December	37

2. Tulis query untuk mendapatkan nama employee yang termasuk Sales Representative.
SELECT FirstName + ' ' + LastName AS [Employee Name], Title
FROM Employees
WHERE Title = 'Sales Representative'
ORDER BY FirstName;

	Employee Name	Title
1	Anne Dodsworth	Sales Representative
2	Janet Leverling	Sales Representative
3	Margaret Peacock	Sales Representative
4	Michael Suyama	Sales Representative
5	Nancy Davolio	Sales Representative
6	Robert King	Sales Representative

3. Tulis query untuk mendapatkan top 5 nama produk yang quantitynya paling banyak diorder pada bulan Januari 1997.

SELECT TOP 5 p.ProductName AS [Product Name], SUM(od.Quantity) AS [Total Quantity]
FROM Products p
INNER JOIN [Order Details] od ON p.ProductID = od.ProductID
INNER JOIN Orders o ON od.OrderID = o.OrderID
WHERE MONTH(o.OrderDate) = 1 AND YEAR(o.OrderDate) = 1997
GROUP BY p.ProductName
ORDER BY SUM(od.Quantity) DESC;

	Product Name	Total Quantity
1	Geitost	119
2	Raclette Courdavault	115
3	Gnocchi di nonna Alice	105
4	Vegie-spread	100
5	Côte de Blaye	99

4. Tulis query untuk mendapatkan nama company yang melakukan order Chai pada bulan Juni 1997.

SELECT c.CompanyName AS [Company Name], p.ProductName AS [Product Name], o.OrderDate AS [Order Date], od.Quantity

FROM Customers c

INNER JOIN Orders o ON c.CustomerID = o.CustomerID

INNER JOIN [Order Details] od ON o.OrderID = od.OrderID

INNER JOIN Products p ON od.ProductID = p.ProductID

WHERE p.ProductName = 'Chai' AND MONTH(o.OrderDate) = 6 AND YEAR(o.OrderDate) = 1997;

	Company Name	Product Name	Order Date	Quantity
1	Tortuga Restaurante	Chai	1997-06-23 00:00:00.000	10

5. Tulis query untuk mendapatkan jumlah OrderID yang pernah melakukan pembelian (unit_price dikali quantity) <=100, 100<x<=250, 250<x<=500, dan >500.

WITH PurchaseAmountTable AS (
      SELECT OrderID, SUM(UnitPrice * Quantity) AS PurchaseAmount
  FROM [Order Details]
  GROUP BY OrderID
)
SELECT COUNT(CASE WHEN PurchaseAmount <= 100 THEN 1 END) AS '<=100',
      COUNT(CASE WHEN PurchaseAmount > 100 AND PurchaseAmount <= 250 THEN 2 END) AS '100 < x <= 250',
      COUNT(CASE WHEN PurchaseAmount > 250 AND PurchaseAmount <= 500 THEN 3 END) AS '250 < x <= 500',
      COUNT(CASE WHEN PurchaseAmount > 500 THEN 4 END) AS '>500'
FROM PurchaseAmountTable;

	<=100	100 < x <= 250	250 < x <= 500	>500
1	37	64	118	611

6. Tulis query untuk mendapatkan Company name pada tabel customer yang melakukan pembelian di atas 500 pada tahun 1997.

WITH PurchaseAmountTable AS (
    SELECT c.CompanyName, SUM(od.UnitPrice*od.Quantity) AS TotalPurchaseAmount
    FROM Customers c
    INNER JOIN Orders o ON c.CustomerID = o.CustomerID
    INNER JOIN [Order Details] od ON o.OrderID = od.OrderID
    WHERE YEAR(o.OrderDate) = 1997
    GROUP BY c.CompanyName
)
SELECT DISTINCT CompanyName, TotalPurchaseAmount FROM PurchaseAmountTable
WHERE TotalPurchaseAmount > 500
ORDER BY CompanyName;

	CompanyName	TotalPurchaseAmount
1	Alfreds Futterkiste	2294.00
2	Ana Trujillo Emparedados y helados	799.75
3	Antonio Moreno Taquería	6452.15
4	Around the Horn	6589.00
5	Berglunds snabbköp	14533.20
6	Blauer See Delikatessen	1079.80
7	Blondesddsl père et fils	8371.80
8	Bólido Comidas preparadas	4035.80
9	Bon app'	12462.55
10	Bottom-Dollar Markets	8547.50
11	B's Beverages	3179.50
12	Chop-suey Chinese	6657.70
13	Comércio Mineiro	1128.00
14	Consolidated Holdings	787.60
15	Die Wandernde Kuh	5217.65
16	Eastern Connection	4514.35
17	Ernst Handel	53467.38
18	Familia Arquibaldo	3344.90
19	Folies gourmandes	11666.90
20	Folk och fä HB	13491.50

7. Tulis query untuk mendapatkan nama produk yang merupakan Top 5 sales tertinggi tiap bulan di tahun 1997.

```sql
WITH TotalSalesTable AS (
    SELECT
        p.ProductName,
        MONTH(o.OrderDate) AS Month,
        SUM(od.UnitPrice * od.Quantity) AS TotalSales,
        ROW_NUMBER() OVER (PARTITION BY MONTH(o.OrderDate) ORDER BY SUM(od.UnitPrice * od.Quantity) DESC) AS Row
    FROM Products p
    INNER JOIN [Order Details] od ON p.ProductID = od.ProductID
    INNER JOIN Orders o ON o.OrderID = od.OrderID
    WHERE YEAR(o.OrderDate) = 1997
    GROUP BY p.ProductName, MONTH(o.OrderDate)
)
SELECT ProductName, Month, TotalSales
FROM TotalSalesTable
WHERE row <= 5
ORDER BY Month, TotalSales DESC
```

	ProductName	Month	TotalSales
1	Côte de Blaye	1	20869.20
2	Raclette Courdavault	1	5060.00
3	Vegie-spread	1	3510.00
4	Gnocchi di nonna ...	1	3192.00
5	Alice Mutton	1	3026.40
6	Pâté chinois	2	3456.00
7	Sirop d'érable	2	2622.00
8	Gnocchi di nonna ...	2	2523.20
9	Thüringer Rostbrat...	2	2376.00
10	Rössle Sauerkraut	2	2074.80
11	Raclette Courdavault	3	7128.00
12	Côte de Blaye	3	6324.00
13	Manjimup Dried Ap...	3	1950.40
14	Thüringer Rostbrat...	3	1782.00
15	Camembert Pierrot	3	1632.00
16	Gnocchi di nonna ...	4	5517.60
17	Schoggi Schokolade	4	5268.00
18	Thüringer Rostbrat...	4	4456.44
19	Côte de Blaye	4	3952.50
20	Camembert Pierrot	4	3604.00
21	Côte de Blaye	5	8959.00
22	Ipoh Coffee	5	3910.00

8. Buatlah view untuk melihat Order Details yang berisi OrderID, ProductID, ProductName, UnitPrice, Quantity, Discount, Harga setelah diskon.

```
DROP VIEW IF EXISTS OrderDetailsView;
GO

CREATE VIEW OrderDetailsView AS
SELECT
    od.OrderID,
    od.ProductID,
    p.ProductName,
    od.UnitPrice,
    od.Quantity,
    od.Discount,
    (od.UnitPrice * od.Quantity * (1 - od.Discount)) AS TotalPriceAfterDiscount
FROM [Order Details] od
INNER JOIN Products p ON od.ProductID = p.ProductID;
GO


SELECT * FROM OrderDetailsView
```

	OrderID	ProductID	ProductName	UnitPrice	Quantity	Discount	TotalPriceAfterDiscount
1	10248	11	Queso Cabrales	14.00	12	0	168
2	10248	42	Singaporean Hokkien Fried Mee	9.80	10	0	98
3	10248	72	Mozzarella di Giovanni	34.80	5	0	174
4	10249	14	Tofu	18.60	9	0	167.4
5	10249	51	Manjimup Dried Apples	42.40	40	0	1696
6	10250	41	Jack's New England Clam Cho...	7.70	10	0	77
7	10250	51	Manjimup Dried Apples	42.40	35	0.15	1261.4
8	10250	65	Louisiana Fiery Hot Pepper Sa...	16.80	15	0.15	214.2
9	10251	22	Gustaf's Knäckebröd	16.80	6	0.05	95.76
10	10251	57	Ravioli Angelo	15.60	15	0.05	222.3
11	10251	65	Louisiana Fiery Hot Pepper Sa...	16.80	20	0	336
12	10252	20	Sir Rodney's Marmalade	64.80	40	0.05	2462.4
13	10252	33	Geitost	2.00	25	0.05	47.5
14	10252	60	Camembert Pierrot	27.20	40	0	1088
15	10253	31	Gorgonzola Telino	10.00	20	0	200
16	10253	39	Chartreuse verte	14.40	42	0	604.8
17	10253	49	Maxilaku	16.00	40	0	640
18	10254	24	Guaraná Fantástica	3.60	15	0.15	45.9
19	10254	55	Pâté chinois	19.20	21	0.15	342.72
20	10254	74	Longlife Tofu	8.00	21	0	168
21	10255	2	Chang	15.20	20	0	304
22	10255	16	Pavlova	13.90	35	0	486.5
23	10255	36	Inlagd Sill	15.20	25	0	380

9. Buatlah procedure Invoice untuk memanggil CustomerID, CustomerName/company name, OrderID, OrderDate, RequiredDate, ShippedDate jika terdapat inputan CustomerID tertentu.

```
DROP PROCEDURE IF EXISTS GenerateInvoice
GO

CREATE PROCEDURE GenerateInvoice
    @CustomerID NVARCHAR(5)
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        c.CustomerID,
        c.CompanyName AS 'CustomerName',
        o.OrderID,
        o.OrderDate,
        o.RequiredDate,
        o.ShippedDate
          FROM Customers c
    INNER JOIN Orders o ON c.CustomerID = o.CustomerID
    INNER JOIN [Order Details] od ON o.OrderID = od.OrderID
    WHERE c.CustomerID = @CustomerID
END
GO

EXEC GenerateInvoice @CustomerID = ALFKI;
```

	CustomerID	CustomerName	OrderID	OrderDate	RequiredDate	ShippedDate
1	ALFKI	Alfreds Futterkiste	10643	1997-08-25 00:00:00.000	1997-09-22 00:00:00.000	1997-09-02 00:00:00.000
2	ALFKI	Alfreds Futterkiste	10643	1997-08-25 00:00:00.000	1997-09-22 00:00:00.000	1997-09-02 00:00:00.000
3	ALFKI	Alfreds Futterkiste	10643	1997-08-25 00:00:00.000	1997-09-22 00:00:00.000	1997-09-02 00:00:00.000
4	ALFKI	Alfreds Futterkiste	10692	1997-10-03 00:00:00.000	1997-10-31 00:00:00.000	1997-10-13 00:00:00.000
5	ALFKI	Alfreds Futterkiste	10702	1997-10-13 00:00:00.000	1997-11-24 00:00:00.000	1997-10-21 00:00:00.000
6	ALFKI	Alfreds Futterkiste	10702	1997-10-13 00:00:00.000	1997-11-24 00:00:00.000	1997-10-21 00:00:00.000
7	ALFKI	Alfreds Futterkiste	10835	1998-01-15 00:00:00.000	1998-02-12 00:00:00.000	1998-01-21 00:00:00.000
8	ALFKI	Alfreds Futterkiste	10835	1998-01-15 00:00:00.000	1998-02-12 00:00:00.000	1998-01-21 00:00:00.000
9	ALFKI	Alfreds Futterkiste	10952	1998-03-16 00:00:00.000	1998-04-27 00:00:00.000	1998-03-24 00:00:00.000
10	ALFKI	Alfreds Futterkiste	10952	1998-03-16 00:00:00.000	1998-04-27 00:00:00.000	1998-03-24 00:00:00.000
11	ALFKI	Alfreds Futterkiste	11011	1998-04-09 00:00:00.000	1998-05-07 00:00:00.000	1998-04-13 00:00:00.000
12	ALFKI	Alfreds Futterkiste	11011	1998-04-09 00:00:00.000	1998-05-07 00:00:00.000	1998-04-13 00:00:00.000