DSLS 2023

Mini Project: Data Engineering

Tools : Microsoft SQL Server

Dataset : Northwind (instnwnd.zip - Google Drive)

Tugas : Intermediate Queries

1. Tulis query untuk mendapatkan jumlah customer tiap bulan yang melakukan order pada tahun 1997.

```
SELECT DATENAME(MONTH, DATEADD(MONTH, MONTH(OrderDate) - 1, '1900-01-01')) Month, COUNT(*) as 'Total Customer'
FROM Orders
WHERE YEAR(OrderDate) = '1997'
GROUP BY MONTH(OrderDate);
```

100 %

Results Messages

	Month	Total Customer
1	January	33
2	February	29
3	March	30
4	April	31
5	May	32
6	June	30
7	July	33
8	August	33
9	September	37
10	October	38
11	November	34
12	December	48

2. Tulis query untuk mendapatkan nama employee yang termasuk Sales Representative.

```
SELECT CONCAT(FirstName, LastName) as 'Employees Name'
FROM Employees
WHERE title = 'Sales Representative';
```

100 %

Results Messages

	Month	Total Customer
1	January	33
2	February	29
3	March	30
4	April	31
5	May	32
6	June	30
7	July	33
8	August	33
9	September	37
10	October	38
11	November	34
12	December	48

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

```
SELECT TOP 5 p.ProductID, p.ProductName, SUM(od.Quantity) as 'Quantity'
FROM Orders as o
JOIN [Order Details] as od on od.OrderID = o.OrderID
JOIN Products as p on p.ProductID = od.ProductID
WHERE YEAR(o.OrderDate) = '1997' AND MONTH(o.OrderDate) = '1'
GROUP BY p.ProductID, p.ProductName
ORDER BY 3 DESC;
```

100 %

Results | Messages

	ProductID	ProductName	Quantity
1	33	Geitost	119
2	59	Raclette Courdavault	115
3	56	Gnocchi di nonna Alice	105
4	63	Vegie-spread	100
5	38	Côte de Blaye	99

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

```
SELECT c.CompanyName
FROM Orders as o
JOIN [Order Details] as od on od.OrderID = o.OrderID
JOIN Products as p on p.ProductID = od.ProductID
JOIN Customers as c on c.CustomerID = o.CustomerID
WHERE YEAR(o.OrderDate) = '1997' AND MONTH(o.OrderDate) = '6' AND p.ProductName = 'Chai';
```

100 %

Results | Messages

	CompanyName
1	Tortuga Restaurante

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

```
SELECT od.OrderID,
        CASE
            WHEN SUM(od.Quantity*od.UnitPrice) <= 100 THEN '<=100'
            WHEN SUM(od.Quantity*od.UnitPrice) > 100 AND SUM(od.Quantity*od.UnitPrice) <= 250 THEN '100<x<=250'
            WHEN SUM(od.Quantity*od.UnitPrice) > 250 AND SUM(od.Quantity*od.UnitPrice) <= 500 THEN '250<x<=500'
            WHEN SUM(od.Quantity*od.UnitPrice) > 500 THEN '>500'
        END as 'Total Order'
FROM [Order Details] as od
GROUP BY od.OrderID
```

100 %

Results Messages

	OrderID	Total Order
1	10248	250<x<=500
2	10249	>500
3	10250	>500
4	10251	>500
5	10252	>500
6	10253	>500
7	10254	>500
8	10255	>500
9	10256	>500
10	10257	>500
11	10258	>500
12	10259	100<x<=250
13	10260	>500
14	10261	250<x<=500
15	10262	>500

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

```
SELECT DISTINCT(c.CompanyName)
FROM Customers as c
JOIN Orders as o on o.CustomerID = c.CustomerID
JOIN [Order Details] as od on od.OrderID = o.OrderID
WHERE od.Quantity*od.UnitPrice > 500;
```

100 %

Results Messages

	CompanyName
1	Alfreds Futterkiste
2	Antonio Moreno Taquería
3	Around the Horn
4	Berglunds snabbköp
5	Blauer See Delikatessen
6	Blondesddsl père et fils
7	Bólido Comidas preparadas
8	Bon app'
9	Bottom-Dollar Markets
10	B's Beverages
11	Chop-suey Chinese
12	Comércio Mineiro
13	Consolidated Holdings
14	Die Wandernde Kuh
15	Drachenblut Delikatessen
16	Du monde entier
17	Eastern Connection
18	Ernst Handel

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

```
;WITH MonthsCTE(m) as
(
    SELECT 1 m
    UNION ALL
    SELECT m+1
    FROM MonthsCTE
    WHERE m < 12
)
SELECT m [Month], t.*
FROM MonthsCTE
CROSS APPLY
(
    SELECT TOP 5
        p.ProductName,
        SUM(od.Quantity*od.UnitPrice) as 'Sales'
    FROM [Order Details] as od
    JOIN Products as p on p.ProductID = od.ProductID
    JOIN Orders as o on o.OrderID = od.OrderID
    WHERE  MONTH(o.OrderDate) = MonthsCTE.m
    GROUP BY p.ProductName
    ORDER BY 2 DESC
) t
```

62 %

Results | Messages

	Month	ProductName	Sales
1	1	Côte de Blaye	39314,20
2	1	Raclette Courdavault	13145,00
3	1	Tarte au sucre	7934,30
4	1	Gnocchi di nonna Alice	7144,00
5	1	Camembert Pierrot	6936,00
6	2	Côte de Blaye	26350,00
7	2	Thüringer Rostbratwurst	22677,56
8	2	Pâté chinois	4416,00
9	2	Tarte au sucre	4386,30
10	2	Sirop d'érable	4047,00
11	3	Côte de Blaye	23451,50

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

```
CREATE VIEW details AS
SELECT od.OrderID, od.ProductID, p.ProductName, od.UnitPrice, od.Quantity, od.Discount,
        ((od.Quantity*od.UnitPrice)-(od.Quantity*od.UnitPrice*od.Discount)) as 'Total'
FROM [Order Details] as od
JOIN Products as p on p.ProductID = od.ProductID;
```

83 %

Messages

```
Commands completed successfully.

Completion time: 2023-01-16T12:08:37.0678082+07:00
```

```
SELECT * FROM details;
```

83 %

Results | Messages

	OrderID	ProductID	ProductName	UnitPrice	Quantity	Discount	Total
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 Chowder	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 Sauce	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 Sauce	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

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

```
CREATE PROCEDURE Invoice @CustomerID nvarchar(5) AS
SELECT c.CustomerID, c.CompanyName, o.OrderID, o.OrderDate, o.RequiredDate, o.ShippedDate
FROM Customers as c
JOIN Orders as o on o.CustomerID = c.CustomerID
WHERE c.CustomerID = @CustomerID;
```

83 %

Messages

```
Commands completed successfully.

Completion time: 2023-01-16T12:10:43.2499310+07:00
```

```
EXEC Invoice @CustomerID = 'ALFKI';
```

83 %

Results | Messages

	CustomerID	CompanyName	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	10692	1997-10-03 00:00:00.000	1997-10-31 00:00:00.000	1997-10-13 00:00:00.000
3	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
4	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
5	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
6	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