

Tugas Teori Basis Data Lanjut



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D-IV Sistem Informasi Bisnis

2D

1. Perusahaan ingin menampilkan data total omset penjualan dikelompokkan berdasarkan nama kategori produk per tahun. Diurutkan berdasarkan nama category. Dengan hasil sebagaimana terlihat disamping.
2. Tulislah menggunakan View, TVF, CTE, dan Derivatif table.

- View

```
CREATE VIEW ProductSalesView AS
SELECT
    c.categoryname AS "Kategori Produk",
    YEAR(o.orderdate) AS Tahun,
    SUM(od.qty * od.unitprice) AS "Total Omset"
FROM Sales.Orders AS o
INNER JOIN Sales.OrderDetails AS od ON o.orderid = od.orderid
INNER JOIN Production.Products AS p ON od.productid = p.productid
INNER JOIN Production.Categories AS c ON p.categoryid = c.categoryid
GROUP BY YEAR(o.orderdate), c.categoryname;

SELECT * FROM ProductSalesView
ORDER BY "Kategori Produk", Tahun;
```

➤ Output

	Kategori Produk	Tahun	Total Omset
1	Beverages	2006	53879,20
2	Beverages	2007	110424,00
3	Beverages	2008	122223,75
4	Condiments	2006	19458,30
5	Condiments	2007	59679,00
6	Condiments	2008	34557,45
7	Confections	2006	31511,60
8	Confections	2007	87227,77
9	Confections	2008	58359,73
10	Dairy Products	2006	44615,80
11	Dairy Products	2007	123910,80
12	Dairy Products	2008	82803,90
13	Grains/Cereals	2006	9817,60

- TVF

```
CREATE FUNCTION GetProductSalesTVF()
RETURNS TABLE
AS
RETURN (
    SELECT
        c.categoryname AS "Kategori Produk",
        YEAR(o.orderdate) AS Tahun,
        SUM(od.qty * od.unitprice) AS "Total Omset"
    FROM Sales.Orders AS o
    INNER JOIN Sales.OrderDetails AS od ON o.orderid = od.orderid
    INNER JOIN Production.Products AS p ON od.productid = p.productid
    INNER JOIN Production.Categories AS c ON p.categoryid = c.categoryid
    GROUP BY YEAR(o.orderdate), c.categoryname
);

SELECT * FROM GetProductSalesTVF()
ORDER BY "Kategori Produk", Tahun;
```

➤ Result

	Kategori Produk	Tahun	Total Omset
1	Beverages	2006	53879,20
2	Beverages	2007	110424,00
3	Beverages	2008	122223,75
4	Condiments	2006	19458,30
5	Condiments	2007	59679,00
6	Condiments	2008	34557,45
7	Confections	2006	31511,60
8	Confections	2007	87227,77
9	Confections	2008	58359,73
10	Dairy Products	2006	44615,80
11	Dairy Products	2007	123910,80
12	Dairy Products	2008	82803,90
13	Grains/Cereals	2006	9817,60

- CTE

```
WITH ProductsSalesCTE AS (
    SELECT
        c.categoryname AS "Kategori Produk",
        YEAR(o.orderdate) AS Tahun,
        SUM(od.qty * od.unitprice) AS "Total Omset"
    FROM Sales.Orders AS o
    INNER JOIN Sales.OrderDetails AS od ON o.orderid = od.orderid
    INNER JOIN Production.Products AS p ON od.productid = p.productid
    INNER JOIN Production.Categories AS c ON p.categoryid = c.categoryid
    GROUP BY YEAR(o.orderdate), c.categoryname
)

SELECT * FROM ProductsSalesCTE
ORDER BY "Kategori Produk", Tahun;
```

➤ Result

	Kategori Produk	Tahun	Total Omset
1	Beverages	2006	53879,20
2	Beverages	2007	110424,00
3	Beverages	2008	122223,75
4	Condiments	2006	19458,30
5	Condiments	2007	59679,00
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11	Dairy Products	2007	123910,80
12	Dairy Products	2008	82803,90
13	Grains/Cereals	2006	9817,60

- Tabel Derivatif

```
CREATE TABLE ProductSalesTD (
    KategoriProduk NVARCHAR(50),
    Tahun INT,
    TotalOmset DECIMAL(18, 2)
);

INSERT INTO ProductSalesTD (KategoriProduk, Tahun, TotalOmset)
SELECT
    c.categoryname AS "Kategori Produk",
    YEAR(o.orderdate) AS Tahun,
    SUM(od.qty * od.unitprice) AS "Total Omset"
FROM Sales.Orders AS o
INNER JOIN Sales.OrderDetails AS od ON o.orderid = od.orderid
INNER JOIN Production.Products AS p ON od.productid = p.productid
INNER JOIN Production.Categories AS c ON p.categoryid = c.categoryid
GROUP BY YEAR(o.orderdate), c.categoryname;

SELECT * FROM ProductSalesTD
ORDER BY KategoriProduk, Tahun;
```

➤ Result

	Kategori Produk	Tahun	Total Omset
1	Beverages	2006	53879,20
2	Beverages	2007	110424,00
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