

Soal & Template Jawaban

Task 5

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Petunjuk

Silahkan merujuk pada Data Source Task 5 yang telah disediakan untuk mengerjakan soal soal di bawah ini

Pada bagian data analytics, terdiri dari 4 soal dengan use case & tabel yang sama. Bayangkan kamu memiliki database erp yang terdiri dari 3 tabel: penjualan, pelanggan, barang. Tabel tersebut akan dibuat menjadi sebuah datamart yang nantinya digunakan untuk visualisasi.

Query

Soal 1*:

Dari 2 query ini, mana yang bekerja lebih baik? Jelaskan mengapa.

(a) `SELECT * FROM pelanggan WHERE SUBSTR(alamat, 1, 3) = Mat;`

(b) `SELECT * FROM pelanggan WHERE alamat LIKE 'Mat%'`

**disclaimer: soal ini tidak terkait dengan data source*

Jawaban : (b) `SELECT * FROM pelanggan WHERE alamat LIKE 'Mat%'`

Alasan : Menurut literatur yang saya baca penggunaan 'LIKE' akan jauh lebih cepat karena menggunakan pencarian biner pada indeks. Jika menggunakan metode SUBSTR akan menggunakan pemindaian tabel penuh, karena Oracle harus memproses baris demi baris fungsinya.

Query

Soal 2 *:

Anggap kita memiliki tabel pelanggan dengan kolom: id, nama, tanggal_lahir, alamat. Bagaimana cara yang lebih tepat dalam menulis query untuk mendapatkan data pelanggan yang tanggal_lahir nya ada di antara 2000-01-01 sampai 2008-12-31? Pilihlah salah satu jawaban dan berikan alasannya.

- (a) `SELECT * FROM pelanggan WHERE tanggal_lahir >= '2000-01-01' AND tanggal_lahir <= '2008-12-31'`
- (b) `SELECT * FROM pelanggan WHERE tanggal_lahir BETWEEN '2000-01-01' AND '2008-12-31'`

**disclaimer: soal ini tidak terkait dengan data source*

Jawaban : (b) `SELECT * FROM pelanggan WHERE tanggal_lahir BETWEEN '2000-01-01' AND '2008-12-31'`

Alasan : Kebanyakan orang berpendapat memilih BETWEEN karena membuat programmer menulis dengan jelas untuk memeriksa suatu rentang. Jika RDBMS tidak mendukung BETWEEN maka bisa menggunakan yang manual ('>= AND <='), dan bisa dimodifikasi jika ingin mengubah rentang misal ('> AND <').

Soal 3: Menentukan Primary Key

A. Tugas

Tentukan primary key dari table penjualan. jelaskan alasannya

B. Jawaban & Penjelasan : id_invoice

Karena kolom id_invoice memenuhi kriteria primary key yaitu tidak memiliki nilai yang sama, tidak kosong (null), tidak melebihi batas kolom (900 byte), tidak bertipe blob, dan berhubungan dengan data (tidak digunakan tabel lain sebagai primary-key).

Soal 4: Design Datamart

A. Tugas

Buatlah design datamart (Terdiri dari tabel base, dan tabel aggregate). Upload file query dalam gdrive mu (pastikan dapat diakses public). Lalu masukkan linknya di tabel di bawah, dan cantumkan juga screenshoot query nya (jika lebih dari 1 file, maka masing masing file di-screenshoot)

Silahkan tambah halaman jika dibutuhkan

A. Jawaban : Query Dikerjakan Menggunakan SQL SERVER 2019

No	Nama File	Link
1	Data Mart (Table Base & Agregate).sql	https://drive.google.com/drive/folders/1rX4Bz09vzOhvafJgbHg5NZg3dHuh5WMY?usp=sharing

1. Table Base "TableBase"

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the current file is 'Data Mart (Table Base & Agregate).sql' in the 'MYBOOK\MSSQLSERVER01\ProjekKimiaFarma (MYBOOK\ydh1 (57))' database. The 'Object Explorer' on the left shows the database structure, including 'Databases', 'System Databases', 'Database Snapshots', 'PortfolioProject', 'ProjekKimiaFarma', 'Database Diagrams', 'Tables', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', and 'Security'. The 'Tables' folder is expanded, showing 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', and 'dbo.Penjualan_ds'. The 'Query Editor' window shows a SQL script with the following content:

```
USE ProjekKimiaFarma

--Check and Cleaning
SELECT *
FROM ProjekKimiaFarma..Penjualan

Select REPLACE(lini, '...', ' ')
From ProjekKimiaFarma.dbo.Penjualan

Update Penjualan
SET lini = REPLACE(lini, '...', ' ')

SELECT *
FROM ProjekKimiaFarma..Pelanggan

EXEC sp_RENAME 'Pelanggan.grpup', 'grup', 'COLUMN'

SELECT *
FROM ProjekKimiaFarma..Barang
```

The 'Results' pane at the bottom shows the output of the last query, which is a table with 11 columns: tanggal, id_distributor, id_cabang, id_invoice, id_customer, id_barang, id_group, brand_id, kode_brand, brand, jumlah_barang, and HargaPenjualan. The table contains 6 rows of data.

tanggal	id_distributor	id_cabang	id_invoice	id_customer	id_barang	id_group	brand_id	kode_brand	brand	jumlah_barang	HargaPenjualan
2013-02-22 00:00:00.000	EPM	CAB03	IN6147	CUST55555	BRG0006	Z32	BRND006	205	OGB & PH	4	2819.2
2013-03-22 00:00:00.000	TD	CAB01	IN6055	CUST55583	BRG0004	Z32	BRND004	201	VNS	4	8700.7
2013-04-22 00:00:00.000	TA	CAB02	IN6180	CUST55614	BRG0005	Z31	BRND005	203	SLCYL	98	5648.3
2013-05-22 00:00:00.000	TD	CAB02	IN6168	CUST55644	BRG0005	Z31	BRND005	203	SLCYL	24	5648.3
2013-06-22 00:00:00.000	TA	CAB02	IN6159	CUST55689	BRG0010	Z31	BRND010	208	SLCYL	67	6940.3
2014-02-22 00:00:00.000	TD	CAB01	IN6129	CUST55556	BRG0001	731	BRND007	206	FTIKAI	8	4592.1

The status bar at the bottom indicates 'Query executed successfully.' and shows the current position in the query (Ln 19, Col 30, Ch 30, INS) and the number of rows returned (350 rows).

Lanjutan SS Query

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the current file is 'Data Mart (Table Base & Aggregate).sql' in the 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma' database. The 'Object Explorer' on the left shows the database structure, including tables like 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', and 'dbo.Penjualan_ds'. The 'Query Editor' window shows a SQL script with four SELECT statements separated by dashed lines, followed by a CTE definition and a final SELECT statement. The 'Results' pane at the bottom shows the output of the query, which is a table with 11 columns: tanggal, id_distributor, id_cabang, id_invoice, id_customer, id_barang, id_group, brand_id, kode_brand, brand, jumlah_barang, and HargaPenjualan. The status bar at the bottom indicates the query was executed successfully, returning 350 rows.

```
SELECT *
FROM ProyekKimiaFarma..Barang

-----

SELECT *
FROM ProyekKimiaFarma..Penjualan_ds

-----

SELECT *
FROM ProyekKimiaFarma..Pelanggan_ds

-----

SELECT *
FROM ProyekKimiaFarma..Barang_ds

--Processing Data
--CTE

WITH TableBase (Tanggal, id_distributor, id_cabang, id_invoice, id_customer, id_barang, id_group, brand_id, kode_brand, brand, jumlah_barang, HargaPenjualan)
AS
```

	tanggal	id_distributor	id_cabang	id_invoice	id_customer	id_barang	id_group	brand_id	kode_brand	brand	jumlah_barang	HargaPenjualan
1	2013-02-22 00:00:00.000	EPM	CAB03	IN6147	CUST55555	BRG0006	Z32	BRND006	205	OGB & PH	4	2819.2
2	2013-03-22 00:00:00.000	TD	CAB01	IN6055	CUST55583	BRG0004	Z32	BRND004	201	VNS	4	8700.7
3	2013-04-22 00:00:00.000	TA	CAB02	IN6180	CUST55614	BRG0005	Z31	BRND005	203	SLCYL	98	5648.3
4	2013-05-22 00:00:00.000	TD	CAB02	IN6168	CUST55644	BRG0005	Z31	BRND005	203	SLCYL	24	5648.3
5	2013-06-22 00:00:00.000	TA	CAB02	IN6159	CUST55689	BRG0010	Z31	BRND010	208	SLCYL	67	6940.3
6	2014-02-22 00:00:00.000	TD	CAB01	IN6129	CUST55556	BRG0001	Z11	BRND007	206	ETIKAI	8	4992.1

Query executed successfully. MYBOOK\MSSQLSERVER01 (15.0 ... MYBOOK\ydh (57) ProyekKimiaFarma 00:00:00 350 rows

Lanjutan SS Query

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the connection to 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57))'. The 'Object Explorer' on the left shows the database structure, including 'Databases', 'System Databases', 'Database Snapshots', 'PortfolioProject', 'ProyekKimiaFarma', 'Database Diagrams', 'Tables', 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', 'dbo.Penjualan_ds', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', and 'Security'. The 'Query Editor' in the center shows a SQL query that creates a CTE named 'TableBase' and then selects from it. The query is as follows:

```
--CTE
WITH TableBase (Tanggal, id_distributor, id_cabang, id_invoice, id_customer, id_barang, id_group, brand_id, Kode_brand, brand, Jumlah)
AS
(
    SELECT pjn.tanggal, pjn.id_distributor, pjn.id_cabang, pjn.id_invoice, pjn.id_customer, pjn.id_barang, pjn.id_group, pjn.brand_id, pjn.kode_brand, pjn.brand, pjn.jumlah
    FROM ProyekKimiaFarma..Penjualan pjn
    JOIN ProyekKimiaFarma..Pelanggan pln
        ON pjn.id_customer = pln.id_customer
    JOIN ProyekKimiaFarma..Barang brg
        ON pjn.id_barang = brg.kode_barang
    JOIN ProyekKimiaFarma..Barang_ds brgs
        ON pjn.id_barang = brgs.kode_barang
    JOIN ProyekKimiaFarma..Pelanggan_ds plgs
        ON pjn.id_customer = plgs.id_customer
)
SELECT *
FROM TableBase
ORDER BY 1
```

The 'Results' pane at the bottom shows the output of the query, which is a table with 12 columns: tanggal, id_distributor, id_cabang, id_invoice, id_customer, id_barang, id_group, brand_id, kode_brand, brand, jumlah_barang, and HargaPenjualan. The table contains 6 rows of data.

	tanggal	id_distributor	id_cabang	id_invoice	id_customer	id_barang	id_group	brand_id	kode_brand	brand	jumlah_barang	HargaPenjualan
1	2013-02-22 00:00:00.000	EPM	CAB03	IN6147	CUST55555	BRG0006	Z32	BRND006	205	OGB & PH	4	2819.2
2	2013-03-22 00:00:00.000	TD	CAB01	IN6055	CUST55583	BRG0004	Z32	BRND004	201	VNS	4	8700.7
3	2013-04-22 00:00:00.000	TA	CAB02	IN6180	CUST55614	BRG0005	Z31	BRND005	203	SLCYL	98	5648.3
4	2013-05-22 00:00:00.000	TD	CAB02	IN6168	CUST55644	BRG0005	Z31	BRND005	203	SLCYL	24	5648.3
5	2013-06-22 00:00:00.000	TA	CAB02	IN6159	CUST55689	BRG0010	Z31	BRND010	208	SLCYL	67	6940.3
6	2014-02-22 00:00:00.000	TD	CAB01	IN6129	CUST55656	BRG0001	Z31	BRND007	206	FTIKAI	8	4592.1

The status bar at the bottom indicates 'Query executed successfully.' and shows the connection details: 'MYBOOK\MSSQLSERVER01 (15.0 ... MYBOOK\ydh1 (57) ProyekKimiaFarma 00:00:00 350 rows'.

Lanjutan SS Query

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the file is 'Data Mart (Table Base & Agregate).sql' in the 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma' database. The Object Explorer on the left shows the database structure, including tables like 'dbo.Barang', 'dbo.Pelanggan', and 'dbo.Penjualan'. The main query editor shows a SQL script with two parts: a view creation and an aggregating query. The results pane at the bottom shows the output of the query, which is a table with 12 columns and 6 rows of data.

```
--Save in View
CREATE VIEW TableBase as
SELECT pjn.tanggal, pjn.id_distributor, pjn.id_cabang, pjn.id_invoice, pjn.id_customer, pjn.id_barang, pln.id_group, pjn.brand_id, b
FROM ProyekKimiaFarma..Penjualan pjn
JOIN ProyekKimiaFarma..Pelanggan pln
ON pjn.id_customer = pln.id_customer
JOIN ProyekKimiaFarma..Barang brg
ON pjn.id_barang = brg.kode_barang
JOIN ProyekKimiaFarma..Barang_ds brgs
ON pjn.id_barang = brgs.kode_barang
JOIN ProyekKimiaFarma..Pelanggan_ds plgs
ON pjn.id_customer = plgs.id_customer

--AGREGATING
Select SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(HargaPenjualan) as Total_HargaPenjualan
From TableBase
ORDER BY 1

Select cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_H
From TableBase
GROUP BY cabang_sales
ORDER BY 1
```

	tanggal	id_distributor	id_cabang	id_invoice	id_customer	id_barang	id_group	brand_id	kode_brand	brand	jumlah_barang	HargaPenjualan
1	2013-02-22 00:00:00.000	EPM	CAB03	IN6147	CUST55555	BRG0006	Z32	BRND006	205	OGB & PH	4	2819.2
2	2013-03-22 00:00:00.000	TD	CAB01	IN6055	CUST55583	BRG0004	Z32	BRND004	201	VNS	4	8700.7
3	2013-04-22 00:00:00.000	TA	CAB02	IN6180	CUST55614	BRG0005	Z31	BRND005	203	SLCYL	98	5648.3
4	2013-05-22 00:00:00.000	TD	CAB02	IN6168	CUST55644	BRG0005	Z31	BRND005	203	SLCYL	24	5648.3
5	2013-06-22 00:00:00.000	TA	CAB02	IN6159	CUST55689	BRG0010	Z31	BRND010	208	SLCYL	67	6940.3
6	2014-02-22 00:00:00.000	TD	CAB01	IN6129	CUST55556	BRG0001	Z31	BRND007	206	FTIKAI	8	4592.1

Query executed successfully. | MYBOOK\MSSQLSERVER01 (15.0 ... | MYBOOK\ydh1 (57) | ProyekKimiaFarma | 00:00:00 | 350 rows

2. Table Base "TableBase"

Data Mart (Table Base & Aggregate).sql - MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydhj (57)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

view

ProyekKimiaFarma

Execute

Data Mart (Table B...(MYBOOK\ydhj (57)))

```
Select brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY brand
ORDER BY 1

Select kemasan, COUNT(kemasan) AS Jumlah_Kemasan, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY kemasan
ORDER BY 1

Select nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY nama
ORDER BY 1
```

Results

	tanggal	id_distributor	id_cabang	id_invoice	id_customer	id_barang	id_group	brand_id	kode_brand	brand	jumlah_barang	HargaPenjualan	unit	level	nama	grup	se
1	2013-02-22 00:00:00.000	EPM	CAB03	IN6147	CUST55555	BRG0006	Z32	BRND006	205	OGB & PH	4	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P
2	2013-03-22 00:00:00.000	TD	CAB01	IN6055	CUST55583	BRG0004	Z32	BRND004	201	VNS	4	8700.7	DUS	Company	APOTEK MAJA	Apotek	P
3	2013-04-22 00:00:00.000	TA	CAB02	IN6180	CUST55614	BRG0005	Z31	BRND005	203	SLCYL	98	5648.3	DUS	Company	KLINIK GM	Klinik	P
4	2013-05-22 00:00:00.000	TA	CAB02	IN6168	CUST55644	BRG0005	Z31	BRND005	203	SLCYL	24	5648.3	DUS	Company	KLINIK GM	Klinik	P
5	2013-06-22 00:00:00.000	TA	CAB02	IN6159	CUST55689	BRG0010	Z31	BRND010	208	SLCYL	67	6940.3	DUS	Company	KLINIK GM	Klinik	P
6	2014-02-22 00:00:00.000	TD	CAB01	IN6129	CUST55556	BRG0001	Z31	BRND007	206	ETIKAL	8	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P
7	2014-03-22 00:00:00.000	TA	CAB02	IN6092	CUST55584	BRG0005	Z31	BRND005	203	SLCYL	2	5648.3	DUS	Company	KLINIK GM	Klinik	P
8	2014-04-22 00:00:00.000	EPM	CAB03	IN6257	CUST55615	BRG0006	Z32	BRND006	205	OGB & PH	5	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P
9	2014-05-22 00:00:00.000	TA	CAB03	IN6192	CUST55645	BRG0006	Z32	BRND006	205	OGB & PH	10	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P
10	2014-06-22 00:00:00.000	EPM	CAB03	IN6264	CUST55690	BRG0001	Z32	BRND001	206	OGB & PH	15	1169.31	DUS	Company	APOTEK MERDEKA	Apotek	P
11	2015-02-22 00:00:00.000	TA	CAB01	IN5986	CUST55557	BRG0002	Z32	BRND008	203	MARCKS	9	3991.9	DUS	Company	APOTEK SINAR JAYA	Apotek	P
12	2015-03-22 00:00:00.000	EPM	CAB03	IN6177	CUST55585	BRG0006	Z32	BRND006	205	OGB & PH	17	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P
13	2015-04-22 00:00:00.000	TD	CAB01	IN6031	CUST55616	BRG0001	Z31	BRND007	206	ETIKAL	4	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P
14	2015-05-22 00:00:00.000	EPM	CAB01	IN6285	CUST55646	BRG0001	Z31	BRND007	206	ETIKAL	130	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P
15	2015-06-22 00:00:00.000	TD	CAB01	IN6046	CUST55691	BRG0002	Z31	BRND002	203	ETIKAL	12	2337.5	DUS	Company	KLINIK SAHABAT	Klinik	P

Query executed successfully.

MYBOOK\MSSQLSERVER01 (15.0 ... | MYBOOK\ydhj (57) | ProyekKimiaFarma | 00:00:00 | 350 rows

Ready Ln 19 Col 30 Ch 30 INS

4:12 PM 7/8/2022

Lanjutan TableBase

Data Mart (Table Base & Aggregate).sql - MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

view

ProyekKimiaFarma

Execute

Object Explorer

Data Mart (Table B...(MYBOOK\ydh1 (57))

```
Select brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY brand
ORDER BY 1

Select kemasan, COUNT(kemasan) AS Jumlah_Kemasan, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY kemasan
ORDER BY 1

Select nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY nama
ORDER BY 1
```

Results

rand	brand	Jumlah_barang	HargaPenjualan	unit	level	nama	grup	sektor	nama_barang	tipe	nama_tipe	kemasan	HargaBarang	cabang_sales
1	OGB & PH	4	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P	KETOCONAZOLE TABLET 200 MG	ZPJ1	Produk jadi	TABLET	39000	Bandung
2	VNS	4	8700.7	DUS	Company	APOTEK MAJA	Apotek	P	TRAMADOL KAPSUL 50 MG	ZPJ1	Produk jadi	KAPSUL	24500	Kuningan
3	SLCYL	98	5648.3	DUS	Company	KLINIK GM	Klinik	P	KLORPROMAZINA TABLET SALUT SELAPUT 100 MG	ZPJ1	Produk jadi	TABLET	47000	Jakarta
4	SLCYL	24	5648.3	DUS	Company	KLINIK GM	Klinik	P	KLORPROMAZINA TABLET SALUT SELAPUT 100 MG	ZPJ1	Produk jadi	TABLET	47000	Jakarta
5	SLCYL	67	6940.3	DUS	Company	KLINIK GM	Klinik	P	PARACETAMOL	ZPJ1	Produk jadi	BOTOL	21000	Jakarta
6	ETIKAL	8	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P	ACYCLOVIR DUS	ZPJ1	Produk jadi	DUS	96000	Tangerang
7	SLCYL	2	5648.3	DUS	Company	KLINIK GM	Klinik	P	KLORPROMAZINA TABLET SALUT SELAPUT 100 MG	ZPJ1	Produk jadi	TABLET	47000	Jakarta
8	OGB & PH	5	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P	KETOCONAZOLE TABLET 200 MG	ZPJ1	Produk jadi	TABLET	39000	Bandung
9	OGB & PH	10	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P	KETOCONAZOLE TABLET 200 MG	ZPJ1	Produk jadi	TABLET	39000	Bandung
10	OGB & PH	15	1169.91	DUS	Company	APOTEK MERDEKA	Apotek	P	ACYCLOVIR DUS	ZPJ1	Produk jadi	DUS	96000	Bandung
11	MARCKS	9	3991.9	DUS	Company	APOTEK SINAR JAYA	Apotek	P	ALERGINE TABLET SALUT	ZPJ1	Produk jadi	DUS	112000	Bekasi
12	OGB & PH	17	2819.2	DUS	Company	APOTEK MERDEKA	Apotek	P	KETOCONAZOLE TABLET 200 MG	ZPJ1	Produk jadi	TABLET	39000	Bandung
13	ETIKAL	4	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P	ACYCLOVIR DUS	ZPJ1	Produk jadi	DUS	96000	Tangerang
14	ETIKAL	130	4592.1	DUS	Company	KLINIK SAHABAT	Klinik	P	ACYCLOVIR DUS	ZPJ1	Produk jadi	DUS	96000	Tangerang
15	ETIKAL	12	2337.5	DUS	Company	KLINIK SAHABAT	Klinik	P	ALERGINE TABLET SALUT	ZPJ1	Produk jadi	DUS	112000	Tangerang

Query executed successfully.

MYBOOK\MSSQLSERVER01 (15.0 ... MYBOOK\ydh1 (57) ProyekKimiaFarma 00:00:00 350 rows

Ready Ln 19 Col 30 Ch 30 INS

4:13 PM 7/8/2022

3. Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the current file is 'Data Mart (Table Base & Agregate).sql' in the 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma' project. The Object Explorer on the left shows the database structure, including 'Databases', 'System Databases', 'Database Snapshots', 'PortofolioProject', 'ProyekKimiaFarma', 'Database Diagrams', 'Tables', 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', 'dbo.Penjualan_ds', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', 'Security', 'Security', 'Server Objects', 'Replication', 'PolyBase', and 'Always On High Availability Management'.

The main query window contains the following SQL code:

```
--AGREGATING
Select SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(HargaPenjualan) as Total_HargaPenjualan
From TableBase
ORDER BY 1

Select cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_H
From TableBase
GROUP BY cabang_sales
ORDER BY 1

Select brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY brand
ORDER BY 1

Select kemasan, COUNT(kemasan) AS Jumlah_Kemasan, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penji
From TableBase
GROUP BY kemasan
ORDER BY 1

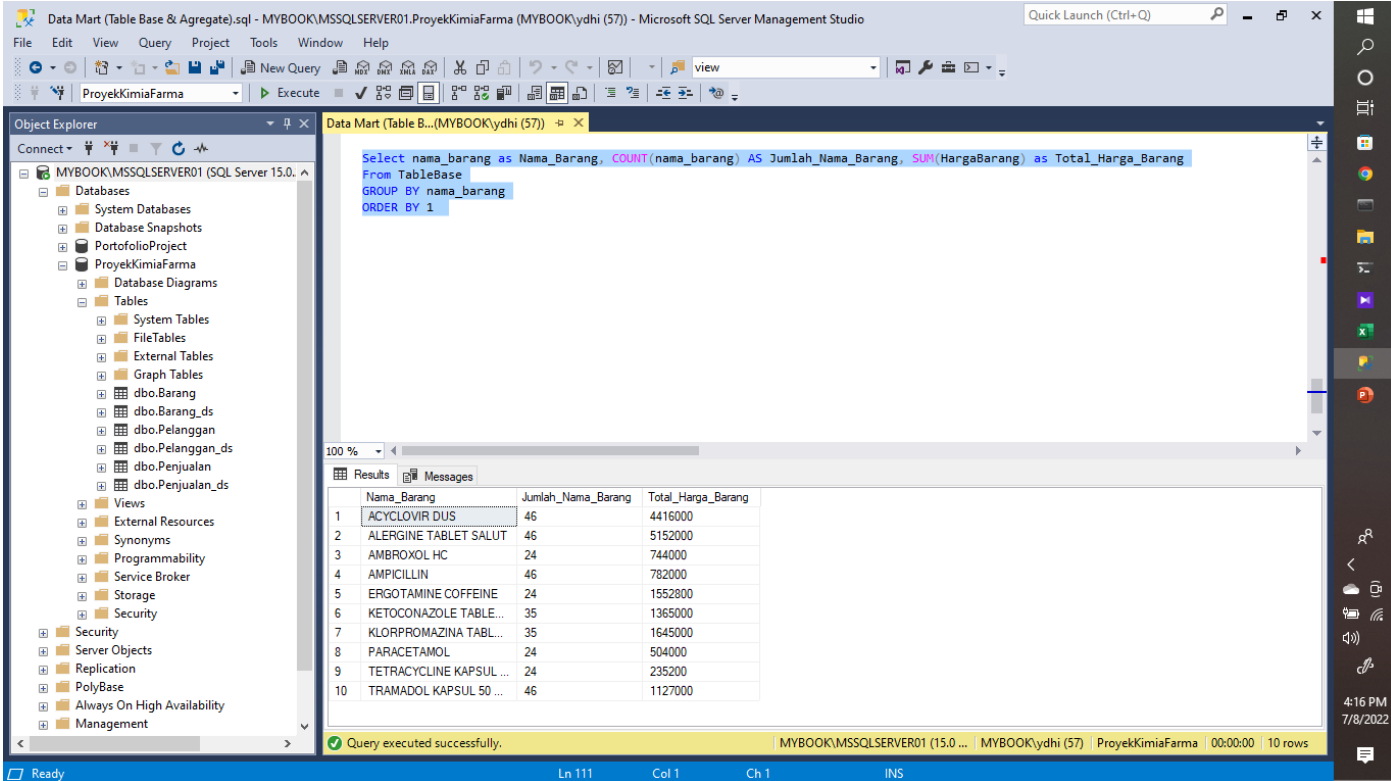
Select nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) a
From TableBase
GROUP BY nama
ORDER BY 1
```

The Results tab at the bottom shows the output of the first query:

	Total_Jumlah_barang	Total_HargaPenjualan
1	9176	1843492.33581543

The status bar at the bottom indicates 'Query executed successfully.' and provides details about the execution: 'MYBOOK\MSSQLSERVER01 (15.0 ... MYBOOK\ydh (57) ProyekKimiaFarma 00:00:00 1 rows'.

Lanjutan Query Table Aggregate “TableBase”



The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the connection to 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydhi (57))'. The Object Explorer on the left shows the database structure, including 'ProjectKimiaFarma' and its tables. The central query editor shows the following SQL query:

```
Select nama_barang as Nama_Barang, COUNT(nama_barang) AS Jumlah_Nama_Barang, SUM(HargaBarang) as Total_Harga_Barang
From TableBase
GROUP BY nama_barang
ORDER BY 1
```

The 'Results' pane at the bottom shows the output of the query, which is a table with three columns: 'Nama_Barang', 'Jumlah_Nama_Barang', and 'Total_Harga_Barang'. The table contains 10 rows of data, with the first row highlighted.

	Nama_Barang	Jumlah_Nama_Barang	Total_Harga_Barang
1	ACYCLOVIR DUS	46	4416000
2	ALERGINE TABLET SALUT	46	5152000
3	AMBROXOL HC	24	744000
4	AMPICILLIN	46	782000
5	ERGOTAMINE COFFEINE	24	1552800
6	KETOCONAZOLE TABLET	35	1365000
7	KLORPROMAZINA TABLET	35	1645000
8	PARACETAMOL	24	504000
9	TETRACYCLINE KAPSUL	24	235200
10	TRAMADOL KAPSUL	46	1127000

The status bar at the bottom indicates that the query was executed successfully, showing the execution time as 00:00:00 and the number of rows as 10.

4. Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the connection to 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydhi (57))'. The Object Explorer on the left shows the database structure, including 'Databases', 'System Databases', 'Database Snapshots', 'PortfolioProject', and 'ProyekKimiaFarma'. Under 'ProyekKimiaFarma', there are 'Database Diagrams', 'Tables', 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', and several user-defined tables like 'dbo.Barang', 'dbo.Pelanggan', and 'dbo.Penjualan'. The 'Tables' folder is expanded, showing 'TableBase'.

The central query editor shows the following SQL script:

```
--AGREGATING
Select SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(HargaPenjualan) as Total_HargaPenjualan
From TableBase
ORDER BY 1

Select cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_HargaPenjualan
From TableBase
GROUP BY cabang_sales
ORDER BY 1

Select brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY brand
ORDER BY 1

Select kemasan, COUNT(kemasan) AS Jumlah Kemasan, SUM(Jumlah_barang) as Total Jumlah barang, SUM(hargapenjualan) as Total Harga Penjualan
```

The 'Results' tab at the bottom shows the output of the first query, which is an aggregate table with two columns: 'Total_Jumlah_barang' and 'Total_HargaPenjualan'. The results are as follows:

	Total_Jumlah_barang	Total_HargaPenjualan
1	9176	1843492.33581543

The status bar at the bottom indicates 'Query executed successfully.' and shows the execution time as '00:00:00' with '1 rows' returned.

Lanjutan Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the active window is "Data Mart (Table Base & Aggregate).sql - MYBOOK\MSSQLSERVER01.ProyekKimaFarma (MYBOOK\ydhil (57))". The Object Explorer on the left shows the database structure, including the "ProyekKimaFarma" database and its tables. The Query Editor in the center contains a SQL query that aggregates data from the "TableBase" table. The query is as follows:

```
--AGREGATING
Select SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(HargaPenjualan) as Total_HargaPenjualan
From TableBase
ORDER BY 1

Select cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_H
From TableBase
GROUP BY cabang_sales
ORDER BY 1

Select brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY brand
ORDER BY 1

Select kemasan, COUNT(kemasan) AS Jumlah Kemasan, SUM(Jumlah_barang) as Total Jumlah barang, SUM(hargapenjualan) as Total Harga Penj
```

The Results pane at the bottom shows the output of the query, displaying a table with 4 columns: "cabang_sales", "Jumlah_Cabang", "Total_Jumlah_barang", and "Total_Harga_Penjualan". The table contains 8 rows of data, with the first row highlighted.

	cabang_sales	Jumlah_Cabang	Total_Jumlah_barang	Total_Harga_Penjualan
1	Aceh	47	1151	213368.714355469
2	Bandung	47	1267	218826.924560547
3	Bekasi	46	1062	218897.50402832
4	Jakarta	47	1751	321604.889648438
5	Kuningan	47	1574	248231.305664063
6	Lampung	23	461	144122.895507813
7	Padang	46	783	248813.805664063
8	Tangerang	47	1127	229626.296386719

The status bar at the bottom indicates that the query was executed successfully, returning 8 rows of data. The status bar also shows the current file path, "MYBOOK\MSSQLSERVER01 (15.0 ...) MYBOOK\ydhil (57) ProyekKimaFarma", and the execution time, "00:00:00".

Lanjutan Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the current file is 'Data Mart (Table Base & Aggregate).sql - MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57)) - Microsoft SQL Server Management Studio'. The Object Explorer on the left shows the database structure for 'MYBOOK\MSSQLSERVER01 (SQL Server 15.0.)', including 'Databases', 'System Databases', 'Database Snapshots', 'PortfolioProject', 'ProyekKimiaFarma', 'Database Diagrams', 'Tables', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', and 'Security'. The 'Tables' folder is expanded, showing 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', and 'User Tables'. The 'User Tables' folder is also expanded, showing 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', and 'dbo.Penjualan_ds'. The main query window shows four SQL queries. The first query is a SELECT statement with COUNT, SUM, and GROUP BY clauses. The second query is a SELECT statement with COUNT, SUM, and GROUP BY clauses. The third query is a SELECT statement with COUNT, SUM, and GROUP BY clauses. The fourth query is a SELECT statement with COUNT, SUM, and GROUP BY clauses. The Results pane at the bottom shows the output of the first query, which is a table with 5 rows and 4 columns: 'brand', 'Jumlah_Brand', 'Total_Jumlah_barang', and 'Total_Harga_Penjualan'. The status bar at the bottom indicates 'Query executed successfully.' and '5 rows'.

```
SELECT cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY cabang_sales
ORDER BY 1

SELECT brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY brand
ORDER BY 1

SELECT kemasan, COUNT(kemasan) AS Jumlah_Kemasan, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY kemasan
ORDER BY 1

SELECT nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY nama
ORDER BY 1
```

	brand	Jumlah_Brand	Total_Jumlah_barang	Total_Harga_Penjualan
1	ETIKAL	70	1824	242536.003417969
2	MARCKS	70	1933	513887.482910156
3	OGB & PH	70	1808	139618.849487305
4	SLCYL	70	1892	440600.986328125
5	VNS	70	1719	506849.013671875

Query executed successfully. MYBOOK\MSSQLSERVER01 (15.0 ...) MYBOOK\ydh1 (57) ProyekKimiaFarma | 00:00:00 | 5 rows

Lanjutan Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the current file is 'Data Mart (Table Base & Agregate).sql - MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57)) - Microsoft SQL Server Management Studio'. The menu bar includes File, Edit, View, Query, Project, Tools, Window, and Help. The toolbar contains various icons for file operations, execution, and development. The Object Explorer on the left shows the database structure for 'MYBOOK\MSSQLSERVER01 (SQL Server 15.0)', including Databases, System Databases, Database Snapshots, PortfolioProject, ProyekKimiaFarma, Database Diagrams, Tables, System Tables, FileTables, External Tables, Graph Tables, and Views. The main query editor displays four SQL queries using aggregate functions (COUNT, SUM) grouped by different columns (cabang_sales, brand, kemasan, nama). The Results pane at the bottom shows the output of the third query, which lists products and their aggregated sales data.

```
SELECT cabang_sales, COUNT(cabang_sales) AS Jumlah_Cabang, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY cabang_sales
ORDER BY 1

SELECT brand, COUNT(brand) AS Jumlah_Brand, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY brand
ORDER BY 1

SELECT kemasan, COUNT(kemasan) AS Jumlah_Kemasan, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY kemasan
ORDER BY 1

SELECT nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
FROM TableBase
GROUP BY nama
ORDER BY 1
```

	kemasan	Jumlah_Kemasan	Total_Jumlah_barang	Total_Harga_Penjualan
1	BOTOL	118	3517	853273.090820313
2	DUS	92	2310	217183.351196289
3	KAPSUL	70	1655	476673.40234375
4	TABLET	70	1694	296362.491455078

Query executed successfully. | MYBOOK\MSSQLSERVER01 (15.0 ... | MYBOOK\ydh1 (57) | ProyekKimiaFarma | 00:00:00 | 4 rows

Lanjutan Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the current file is 'Data Mart (Table Base & Agregate).sql' located in 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57))'. The menu bar includes File, Edit, View, Query, Project, Tools, Window, and Help. The toolbar contains icons for opening files, saving, executing queries, and other standard database operations. The Object Explorer on the left shows the database structure for 'MYBOOK\MSSQLSERVER01 (SQL Server 15.0)', including System Databases, Database Snapshots, PortfolioProject, and the 'ProyekKimiaFarma' database with its tables and views. The main query editor window shows two SQL queries. The first query is selected and displays its results in the Results pane. The second query is also visible below the first. The status bar at the bottom indicates the query was executed successfully, showing the server name, database name, and the number of rows returned (10 rows).

Query 1:

```
ORDER BY 1

Select nama as Nama_Tempat_Jual, COUNT(nama) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY nama
ORDER BY 1
```

Query 2:

```
Select grup as Jenis_Tempat_Jual, COUNT(grup) AS Jumlah_Tempat_Jual, SUM(Jumlah_barang) as Total_Jumlah_barang, SUM(hargapenjualan) as Total_Harga_Penjualan
From TableBase
GROUP BY grup
ORDER BY 1
```

Results of Query 1:

	Nama_Tempat_Jual	Jumlah_Tempat_Jual	Total_Jumlah_barang	Total_Harga_Penjualan
1	APOTEK MAJA	47	1574	248231.305664063
2	APOTEK MERDEKA	47	1267	218826.924560547
3	APOTEK SAHABAT	46	783	248813.805664063
4	APOTEK SINAR JAYA	46	1062	218897.50402832
5	APOTEK TAPAK	47	1151	213368.714355469
6	KLINIK DR. ANDRI	23	461	144122.895507813
7	KLINIK GM	47	1751	321604.889648438
8	KLINIK SAHABAT	47	1127	229626.296386719

Results of Query 2:

	Jenis_Tempat_Jual	Jumlah_Tempat_Jual	Total_Jumlah_barang	Total_Harga_Penjualan
1	Apotek	233	5837	1148138.25427246
2	Klinik	117	3339	695354.081542969

Query executed successfully. | MYBOOK\MSSQLSERVER01 (15.0 ... | MYBOOK\ydh1 (57) | ProyekKimiaFarma | 00:00:00 | 10 rows

Lanjutan Table Aggregate “TableBase”

The screenshot displays the Microsoft SQL Server Management Studio interface. The title bar indicates the file is 'Data Mart (Table Base & Aggregate).sql' in the 'MYBOOK\MSSQLSERVER01.ProyekKimiaFarma (MYBOOK\ydh1 (57))' project. The Object Explorer on the left shows the database structure, including 'Databases', 'System Databases', 'Database Snapshots', 'PortfolioProject', 'ProyekKimiaFarma', 'Database Diagrams', 'Tables', 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', 'dbo.Barang', 'dbo.Barang_ds', 'dbo.Pelanggan', 'dbo.Pelanggan_ds', 'dbo.Penjualan', 'dbo.Penjualan_ds', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', 'Security', 'Server Objects', 'Replication', 'PolyBase', 'Always On High Availability', and 'Management'.

The main query editor shows the following SQL code:

```
From TableBase
GROUP BY grup
ORDER BY 1

Select nama_barang as Nama_Barang, COUNT(nama_barang) AS Jumlah_Nama_Barang, SUM(HargaBarang) as Total_Harga_Barang
From TableBase
GROUP BY nama_barang
ORDER BY 1
```

The Results pane displays the output of the query, showing a table with three columns: 'Nama_Barang', 'Jumlah_Nama_Barang', and 'Total_Harga_Barang'. The data is as follows:

	Nama_Barang	Jumlah_Nama_Barang	Total_Harga_Barang
1	ACYCLOVIR DUS	46	4416000
2	ALERGINE TABLET SALUT	46	5152000
3	AMBROXOL HC	24	744000
4	AMPICILLIN	46	782000
5	ERGOTAMINE COFFEINE	24	1552800
6	KETOCONAZOLE TABLET 200 MG	35	1365000
7	KLORPROMAZINA TABLET SALUT SELAPUT 100 MG	35	1645000
8	PARACETAMOL	24	504000
9	TETRACYCLINE KAPSUL 250 MG	24	235200
10	TRAMADOL KAPSUL 50 MG	46	1127000

The status bar at the bottom indicates 'Query executed successfully.' and shows the current location as 'Ln 110 Col 1 Ch 1 INS'.

Soal 5 : Data Visualization

A. Tugas

buatlah data visualiasasi nya, dan cantumkan linknya di bawah (pastikan bisa diakses publik).
Lalu cantumkan juga screenshot visualisasinya

Silahkan tambah halaman jika dibutuhkan

A. Jawaban :

Link visualisasi (ex link Google Data Studio) : <https://datastudio.google.com/reporting/0a488c1f-56c7-4b03-97b8-13d72f0006ac>

Yudhi Ahmadi,Kimia Farma

datastudio.google.com/u/0/reporting/0a488c1f-56c7-4b03-97b8-13d72f0006ac/page/SSPpC

Yudhi Ahmadi,Kimia Farma

Reset

Share

Edit

Penjualan Produk Kimia Farma

Apotek/Klinik

Nama Tempa...

Brand

Nama Produk

Kemasan

id_invoice

Enter a value

HargaPenj...

1,149.91

10,690.6

Select date ran

✓ Caban... Reco...

Type to search

✓ Bandung 47

✓ Kuningan 47

✓ Jakarta 47

✓ Tangerang 47

✓ Aceh 47

✓ Bekasi 46

✓ Padang 46

✓ Lampung 23

Total Harga Jual

1.8M

Total Barang

9.2K

Kota Cabang

8.0

Jenis Produk

10.0

Jumlah_barang

HargaPenjualan

15K

150

Feb 2013

Mar 2014

Apr 2015

May 2016

Feb 2018

Apr 2019

May 2020

Jan 2022

Jul 2022

Jan 2023

Mar 2024

Apr 2025

Jan 2026

Feb 2026

May 2029

Mar 2031

28.5%

62.5%

Apotek

Klinik

18.7%

21.1%

20.6%

19.9%

MARCHIS

SUCTYL

ETIGAL

ODE S PW

YMS

Malaysia

Singapore

Indonesia

Keyboard shortcuts

Map data ©2022 Google

500 km

Terms of Use

Yudhi Ahmadi, Sjin Phen, Auliyya Aini

4:22 PM
7/8/2022

Soal 6 : Additional Complementary Data

A. Tugas :

Dari data yang tersedia, menurut kamu untuk melengkapi analisis nya apakah diperlukan data lain juga? jika iya, sebutkan data apa yang kamu maksud dan mengapa memerlukan data tersebut

A. Jawaban : Diperlukan Data

- Produk yang Terjual Per Daerah
- Produk yang Tersisa (Tidak Terjual) Per Daerah
- Data Kategori Konsumen (Pembeli Produk)

Karena sebagai data analytics saya mencoba untuk menemukan bagaimana pola pelanggan dalam membeli produk. Pola yang dimaksud ialah barang yang dibeli secara bersamaan. Hal tersebut mungkin dapat digunakan sebagai pengambilan kebijakan untuk penawaran produk dan tata letak produk kepada pelanggan dengan kecenderungan membeli produk yang sama. Contoh : Pembeli produk obat sakit tenggorokan mungkin cenderung untuk membeli produk vitamin C jika kita menawarkannya.