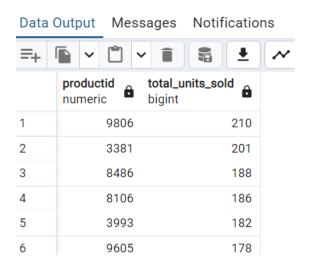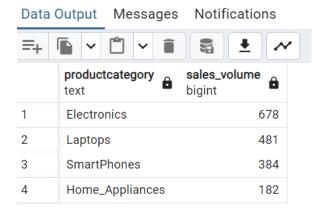**1 Total number of units sold per product SKU**

```sql
SELECT
    productid,
    SUM(inventoryquantity) AS total_units_sold
FROM
    sales
GROUP BY
    productid
    ORDER BY total_units_sold desc;
```

Data Output   Messages   Notifications

	productid numeric	total_units_sold bigint
1	9806	210
2	3381	201
3	8486	188
4	8106	186
5	3993	182
6	9605	178

2) Product category with the highest sales volume in the last month

```sql
SELECT
    p.productcategory, SUM(s.inventoryquantity)AS sales_volume
FROM sales s
join product p on p.productid=s.productid
where s.sales_year = '2021' and s. sales_month='11'
group by  p.productcategory
order by sales_volume desc;
```
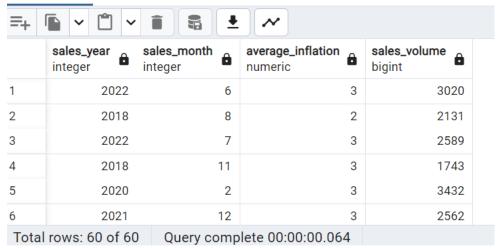
Data Output   Messages   Notifications

	productcategory 🔒 text	sales_volume 🔒 bigint
1	Electronics	678
2	Laptops	481
3	SmartPhones	384
4	Home_Appliances	182

3) How does the inflation rate correlate with sales volume for a specific month?

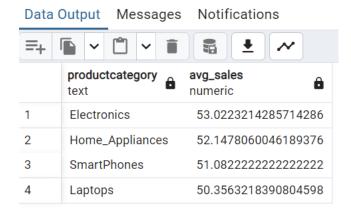## What is Correlation between inflation rate and sales volume for a specific month

```sql
select sales_year,sales_month,ROUND(avg (inflationrate)) as average_inflation,
  sum(sales.inventoryquantity) as sales_volume
    from sales
join factors  on sales.salesdate=factors.salesdate
group by sales_year,sales_month;
```

Data Output   Messages   Notifications

	sales_year 🔒 integer	sales_month 🔒 integer	average_inflation 🔒 numeric	sales_volume 🔒 bigint
1	2022	6	3	3020
2	2018	8	2	2131
3	2022	7	3	2589
4	2018	11	3	1743
5	2020	2	3	3432
6	2021	12	3	2562

Total rows: 60 of 60   Query complete 00:00:00.064

4 What is the average sales quantity per product category?

```sql
select product.productcategory, avg(inventoryquantity) as  avg_sales
from sales
join product on product.productid=sales.productid
group by product.productcategory
order by avg_sales desc;
```

Data Output   Messages   Notifications

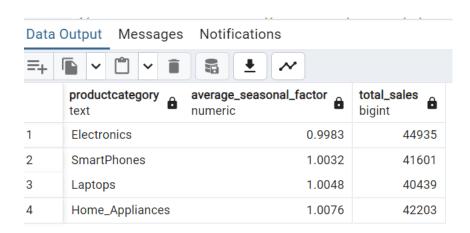|	productcategory text	avg_sales numeric
1	Electronics	53.0223214285714286
2	Home_Appliances	52.1478060046189376
3	SmartPhones	51.0822222222222222
4	Laptops	50.3563218390804598

5 How does the GDP affect the total sales volume?

```sql
select sales.sales_year, sum(factors.gdp) as total_gdp,sum(sales.inventoryquantity)as total_sales
from sales
join factors on sales.salesdate=factors.salesdate
group by sales.sales_year
order by total_sales desc
```

sales_year integer	total_gdp numeric	total_sales bigint
2022	11784934	30376
2020	10809149	29068
2018	11720127	28494
2019	10959588	27529
2021	10437262	27349

From the result above, GDP does not affect the total sale volume

6 How do seasonal factors influence sales quantities for different product categories?

```sql
select product.productcategory,round(avg(factors.seasonalfactor),4) as average_seasonal_factor,
sum(sales.inventoryquantity) as total_sales
    from sales
join product on product.productid=sales.productid
join factors on factors.salesdate=sales.salesdate
group by product. productcategory
order by average_seasonal_factor
```

Data Output   Messages   Notifications

	productcategory text	average_seasonal_factor numeric	total_sales bigint
1	Electronics	0.9983	44935
2	SmartPhones	1.0032	41601
3	Laptops	1.0048	40439
4	Home_Appliances	1.0076	42203

It is observed that the lower the average seasonal factor the higher the total sales.