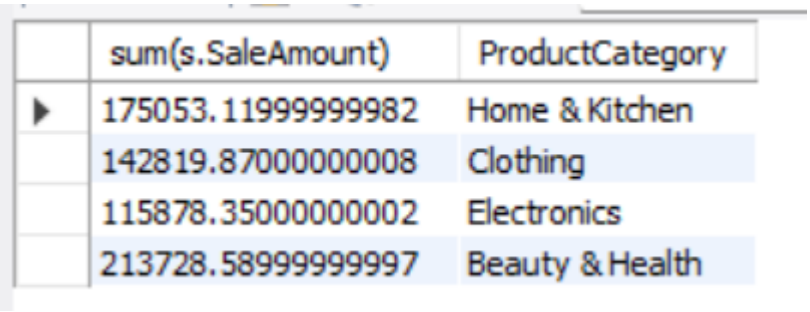
1. SQL Queries:

a. Write a SQL query to calculate the total sales amount by product category for the year.

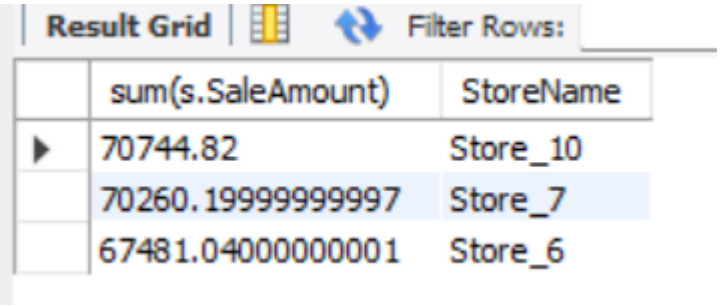
```
select
   sum(s.SaleAmount),
   p.ProductCategory
from sales as s=
left join products as p
on s.ProductID=p.ProductID
group by 2;
```



sum(s.SaleAmount)	ProductCategory
175053.11999999982	Home & Kitchen
142819.87000000008	Clothing
115878.35000000002	Electronics
213728.58999999997	Beauty & Health

b. Write a SQL query to find the top 3 performing stores in terms of sales amount.

```
Select
  sum(s.SaleAmount),
  st.StoreName
from sales as s
left join stores as st
on s.StoreID=st.StoreID
group by 2
order by 1 desc limit 3;
```

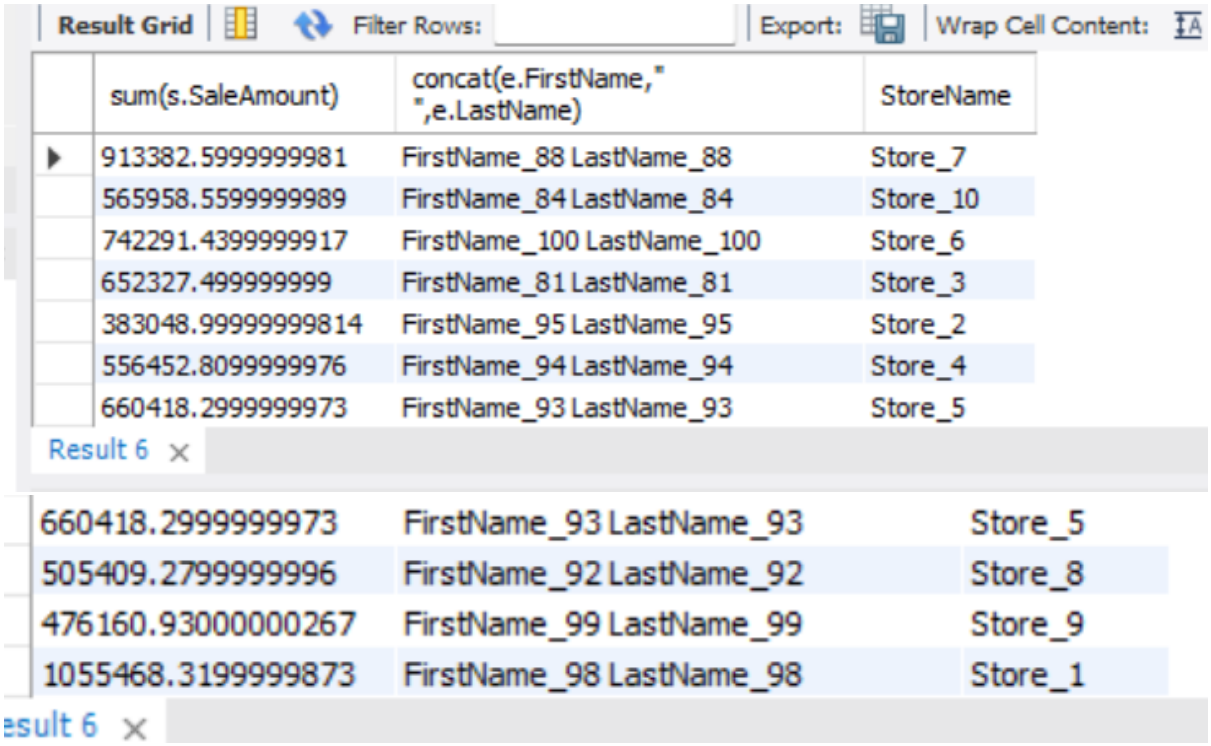


sum(s.SaleAmount)	StoreName
70744.82	Store_10
70260.19999999997	Store_7
67481.04000000001	Store_6

c. Identify the employee with the highest sales in each store.

```
select
  sum(s.SaleAmount),
  concat(e.FirstName," ",e.LastName),
  st.StoreName
```

```
from sales as s
left join employees as e
on s.StoreID =e.StoreID
left join stores as st
on s.StoreID =st.StoreID
group by 3;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sum(s.SaleAmount)	concat(e.FirstName," ",e.LastName)	StoreName
913382.5999999981	FirstName_88 LastName_88	Store_7
565958.5599999989	FirstName_84 LastName_84	Store_10
742291.4399999917	FirstName_100 LastName_100	Store_6
652327.499999999	FirstName_81 LastName_81	Store_3
383048.99999999814	FirstName_95 LastName_95	Store_2
556452.8099999976	FirstName_94 LastName_94	Store_4
660418.2999999973	FirstName_93 LastName_93	Store_5

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660418.2999999973	FirstName_93 LastName_93	Store_5
505409.2799999996	FirstName_92 LastName_92	Store_8
476160.93000000267	FirstName_99 LastName_99	Store_9
1055468.3199999873	FirstName_98 LastName_98	Store_1

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2. Data Analysis & RCA:

a. **Reasons(assumption)**
   i. **Increased Competition**: With new competitors entering the market or existing ones expanding their presence, experiencing less sale
   ii. **Poor Customer Service and Satisfaction**: Negative experiences with customer service or dissatisfaction with the overall shopping experience could be driving customers away and impacting sales.

b. **Actions**:
   i. **Targeted Marketing Campaigns and Promotions:** Develop and implement targeted marketing campaigns and promotional offers to attract customers back to the store. Bring special deals or offers.

ii. **Investment in Staff Training and Customer Service Improvement:** Allocate resources towards staff training programs aimed at improving customer service skills and enhancing overall satisfaction. Focus on aspects such as attentive assistance, product knowledge, and problem resolution to create a positive shopping experience that encourages repeat visits and builds customer loyalty.

3. Data Visualization: dashboard download

a. Line chart: The x-axis typically represents time (in months), while the y-axis represents the sales amount. Each data point on the plot represents the sales amount for a specific month

b. Bar chart: The categories are different regions, and the height of each bar represents the sales performance in terms of revenue or quantity sold.

c. Pie chart: Each slice represents a proportionate part of the whole, and the size of each slice is proportional to the quantity it represents. In this case, the pie chart would display the sales performance of the top 3 products as a percentage of total sales.