

JMM Technologies Pvt Ltd

Data Science Department

TASK 9: DATA ANALYSIS WITH SQL QUERIES

Submitted by

Sikandar Hayat

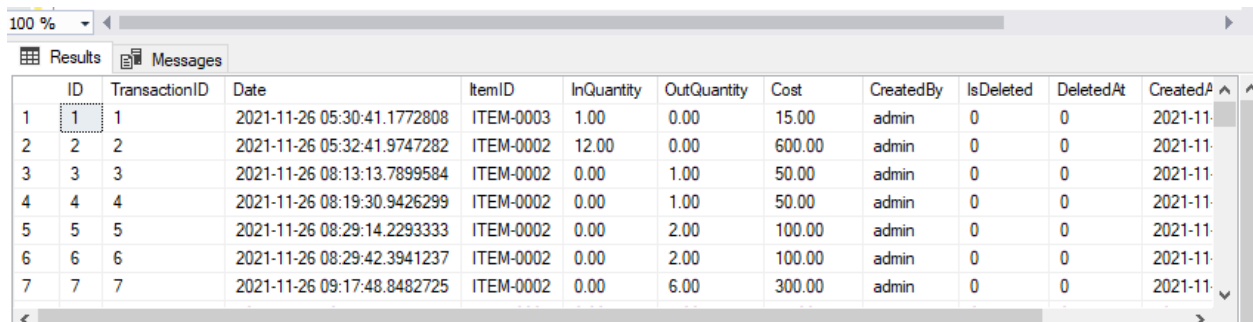
Data science intern

Track Inventory Movements:

Query:

```
USE shah;  
select *from InventoryMovements;
```

Output:



ID	TransactionID	Date	ItemID	InQuantity	OutQuantity	Cost	CreatedBy	IsDeleted	DeletedAt	CreatedAt
1	1	2021-11-26 05:30:41.1772808	ITEM-0003	1.00	0.00	15.00	admin	0	0	2021-11-
2	2	2021-11-26 05:32:41.9747282	ITEM-0002	12.00	0.00	600.00	admin	0	0	2021-11-
3	3	2021-11-26 08:13:13.7899584	ITEM-0002	0.00	1.00	50.00	admin	0	0	2021-11-
4	4	2021-11-26 08:19:30.9426299	ITEM-0002	0.00	1.00	50.00	admin	0	0	2021-11-
5	5	2021-11-26 08:29:14.2293333	ITEM-0002	0.00	2.00	100.00	admin	0	0	2021-11-
6	6	2021-11-26 08:29:42.3941237	ITEM-0002	0.00	2.00	100.00	admin	0	0	2021-11-
7	7	2021-11-26 09:17:48.8482725	ITEM-0002	0.00	6.00	300.00	admin	0	0	2021-11-

How many inventories were bought?

Query:

```
select sum(InQuantity) as Total_bought from InventoryMovements;
```

Output:



Total_bought
118304.00

How many inventories were sold?

Query:

```
SELECT Top(1) itemID ,SUM(OutQuantity) as Most_sold_Item,COUNT(itemID) as No_of_iteam  
from InventoryMovements
```

```
group by(ItemID)
order by Most_sold_Item desc;
```

Output:

	itemID	Most_sold_Item	No_of_item
1	ITEM-0002	10653.00	336

Which one is the most sold Item in terms of quantity?

Query:

```
SELECT MAX(OutQuantity) AS Most_sold_Item FROM InventoryMovements;
```

Output:

	Most_sold_Item
1	5000.00

Through string search, search an item starting with a given alphabet, or including those alphabets.

Query:

String started from I and including I in the alphabets.

```
SELECT * FROM InventoryMovements WHERE ItemID LIKE '%I%'; -- search String I from item
```

Output:

	ID	TransactionID	Date	ItemID	InQuantity	OutQuantity	Cost	CreatedBy	IsDeleted	DeletedAt	CreatedAt
1	1	1	2021-11-26 05:30:41.1772808	ITEM-0003	1.00	0.00	15.00	admin	0	0	2021-11-26 05:30:41.1772808
2	2	2	2021-11-26 05:32:41.9747282	ITEM-0002	12.00	0.00	600...	admin	0	0	2021-11-26 05:32:41.9747282
3	3	3	2021-11-26 08:13:13.7899584	ITEM-0002	0.00	1.00	50.00	admin	0	0	2021-11-26 08:13:13.7899584
4	4	4	2021-11-26 08:19:30.9426299	ITEM-0002	0.00	1.00	50.00	admin	0	0	2021-11-26 08:19:30.9426299
5	5	5	2021-11-26 08:29:14.2293333	ITEM-0002	0.00	2.00	100...	admin	0	0	2021-11-26 08:29:14.2293333
6	6	6	2021-11-26 08:29:42.3941237	ITEM-0002	0.00	2.00	100...	admin	0	0	2021-11-26 08:29:42.3941237
7	7	7	2021-11-26 09:17:48.8482725	ITEM-0002	0.00	6.00	300...	admin	0	0	2021-11-26 09:17:48.8482725
8	8	8	2021-11-26 10:11:31.4171588	ITEM-0003	0.00	1.00	15.00	admin	0	0	2021-11-26 10:11:31.4171588

Query:

Integer started from 1 and including 1 in the alphabets.

```
SELECT * FROM InventoryMovements WHERE ItemID LIKE '%1%'; -- search integer 1 from item
```

Output:

	ID	TransactionID	Date	ItemID	InQuantity	OutQuantity	Cost	CreatedBy	IsDeleted	DeletedAt	CreatedAt
1	12	21	2021-11-26 13:07:34.8332782	ITEM-0015	1000.00	0.00	25000.00	admin	0	0	2021-11-2
2	13	22	2021-11-26 13:09:55.7976645	ITEM-0015	0.00	15.00	375.00	admin	0	0	2021-11-2
3	15	24	2021-11-26 13:29:04.5139910	ITEM-0015	0.00	2.00	50.00	admin	0	0	2021-11-2
4	16	25	2021-11-26 13:42:38.5234015	ITEM-0015	0.00	1.00	25.00	admin	0	0	2021-11-2
5	17	26	2021-11-26 13:48:14.1903366	ITEM-0015	0.00	1.00	25.00	admin	0	0	2021-11-2
6	25	36	2021-11-27 05:59:13.3940180	ITEM-0013	50.00	0.00	2750.00	admin	0	0	2021-11-2
7	35	44	2021-11-27 06:35:36.5119028	ITEM-0015	0.00	2.00	50.00	admin	0	0	2021-11-2

Track Sales:

```
select * from SaleInvoices;  
select * from SaleInvoiceDetails;
```

How many sales occurred in a given duration?

Duration is '2022/01/01' to '2022/03/30'

Query

```
select sum(SellPrice) as Sell_duration from SaleInvoiceDetails  
where IssuedDate between '2022/01/01' and '2022/03/30';
```

Out Put

	Sell_duration
1	7623.88

How many items are sold?

Query

```
Select sum(SellPrice) as Total_Sales from SaleInvoiceDetails;  
select sum(SellPrice) as  
Sell_duration from SaleInvoiceDetails  
where IssuedDate between '2022/01/01' and '2022/03/30';
```

Out Put

Results		Messages
	Total_Sales	
1	95934.34	

Which is the most profitable item?

Query

```
select Top(1) ItemID, (SellPrice-CostPrice)*Quantity as Most_profitable from
SaleInvoiceDetails
order by Most_profitable desc;
```

Out Put

Results		Messages
	ItemID	Most_profitable
1	ITEM-0013	67212.0000

Which Item is most expensive?

Query

```
select DISTINCT TOP 2 ItemID, CostPrice as Most_Expensive from SaleInvoiceDetails
order by Most_Expensive desc;
```

Out Put

Results		Messages
	ItemID	Most_Expensive
1	ITEM-0002	200.00
2	ITEM-0088	200.00

Which customer has a high number of sales? Top 5 customers.

Query

```
select Top(5) CustomerID, sum(GrossTotal) as most_sell
from SaleInvoices
group by CustomerID order by most_sell desc;
```

Out Put

Results		Messages
	CustomerID	most_sell
1	CUST-0011	123932.12
2	CUST-0003	120979.35
3	CUST-0006	80028.00
4	CUST-0001	62903.83
5	CUST-0031	37524.00

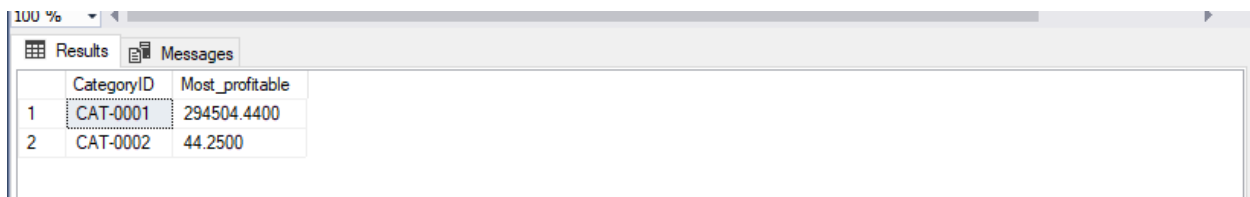
Which category items are generating the most profit? Top 5 categories.

Query

```
select * from Items;
select * from SaleInvoiceDetails;

select CategoryID, sum((SellPrice-CostPrice)*Quantity) as Most_profitable from SaleInvoiceDetails
    INNER JOIN Items ON SaleInvoiceDetails.ItemID = Items.ItemID
    group by CategoryID
;
```

Output:



The screenshot shows a SQL Server Enterprise Manager window with the 'Results' tab selected. It displays a table with two columns: 'CategoryID' and 'Most_profitable'. The table contains two rows of data.

	CategoryID	Most_profitable
1	CAT-0001	294504.4400
2	CAT-0002	44.2500

Track Purchases:

Top 5 purchases from Supplier?

Query

```
--Track Purchases
select * from PurchaseInvoice;
select * from PurchaseInvoiceDetails;
--Top 5 purchases from Supplier?
Select Top(5) SupplierID, sum(GrossTotal) as Purchase from PurchaseInvoice
    group by SupplierID;
```

Output:



The screenshot shows a SQL Server Enterprise Manager window with the 'Results' tab selected. It displays a table with two columns: 'SupplierID' and 'Purchase'. The table contains five rows of data.

	SupplierID	Purchase
1	SUP-0001	98054.55
2	SUP-0002	8869.26
3	SUP-0004	192074.00
4	SUP-0006	11667.30
5	SUP-0010	23.60

Most purchases in which Month and Year?

Query:

```
-- Most purchases in which Month and Year?
Select Top(1) Year(IssuedDate) as Year ,Month(IssuedDate) as Month,Sum(GrossTotal) as Most_purchase from PurchaseInvoice
group by Year(IssuedDate), MONTH(IssuedDate)
order by most_purchase desc
;
```

Output:

	Year	Month	Most_purchase
1	2021	11	199608.91

Which Item is Purchased the most? Top 5

Query:

```
--Which Item is Purchased the most? Top 5
Select Top(5) ItemID, sum(CostPrice) as Most_Purchased from PurchaseInvoiceDetails
group by ItemID
order by Most_Purchased desc;
```

Output:

	ItemID	Most_Purchased
1	ITEM-0002	2479.85
2	ITEM-0003	215.00
3	ITEM-0020	200.00
4	ITEM-0088	200.00
5	ITEM-0013	125.00

Which Category is purchased the most? Top 5.

Query:

```
--Which Category is purchased the most? Top 5.
select Top(5) CategoryID, sum(CostPrice) as Purchased from PurchaseInvoiceDetails
INNER JOIN Items ON PurchaseInvoiceDetails.ItemID = Items.ItemID
group by CategoryID
;
```

Output:

	CategoryID	Purchased
1	CAT-0001	3340.55
2	CAT-0002	4.00

Track Customers:

Total number of customers

Query:

```
--Track Customers:
Select * from Customers;
Select Count(CustomerID) as Total_Customer from Customers;
```

Output:

	Total_Customer
1	29

Customers from Abbottabad?

Query:

```
Select * from Customers
where FullAddress LIKE '%Abbottabad%';
```

Output:

	CustomerID	CustomerNameArabic	CustomerNameEnglish	FullAddress	Contact	Telephone	Email
1	CUST-0006	NULL	shah	Abbottabad	0974563556446	0984468664	shah
2	CUST-0011	NULL	Younis Rahimi Khan	Mubashir Plaza Abbottabad	03155768231	NULL	jmm.
3	CUST-0012	مندثر نصار	Mudassir Nissar	Sirsyed Colony, Mandian Abbottabad	03219574797	NULL	jm.m
4	CUST-0013	مندثر نصار	Mudassir nizai	Naqi / Taqi house, Madina Street main Maira muz...	0325645747946	NULL	jmmu
5	CUST-0014	مندثر نصار	MUDASIR	Naqi / Taqi house, Madina Street main Maira muz...	3155055607	3155055607	taqik
6	CUST-0029	مندثر نصار	NULL	Mubashir Plaza Abbottabad	3155768231	NULL	testc

Customer buying the most quantity of items? Top 5

Query:

```
--Customer buying the most quantity of items? Top 5
select Top(5) CustomerID, sum(Quantity) as Most_Quntity from SaleInvoices
INNER JOIN SaleInvoiceDetails ON SaleInvoices.InvoiceId = SaleInvoiceDetails.SaleInvoiceID
group by CustomerID
order by Most_Quntity desc
```

Output:

Results Messages		
	CustomerID	Most_Quantity
1	CUST-0001	24134.00
2	CUST-0031	5300.00
3	CUST-0003	1254.00
4	CUST-0006	307.00
5	CUST-0009	210.00

Customers providing the most Profit? Top 5.

Query:

```
--Customers providing the most Profit? Top 5.
```

```
select Top(5) CustomerID, sum((SellPrice-CostPrice)*Quantity) as Most_Profit from SaleInvoices
    INNER JOIN SaleInvoiceDetails ON SaleInvoices.InvoiceId = SaleInvoiceDetails.SaleInvoiceID
    group by CustomerID
    order by Most_Profit desc
;
```

Output:

Results Messages		
	CustomerID	Most_Profit
1	CUST-0011	106548.3400
2	CUST-0003	89817.6400
3	CUST-0006	22706.2100
4	CUST-0001	19577.0800
5	CUST-0031	15900.0000