

Object Explorer

Connect

LAPTOP-NHTUBCG1\SQLEXPRESS (SQ)

Databases

- System Databases
- Database Snapshots
- DA
- Data_analysis
- iPhoneFactoryDB
- MyDatabase
- online_food
- OrgAccenture
- RetailDB
 - Database Diagrams
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.retail_business_data
- Views
- External Resources
- Synonyms
- Programmability
- Service Broker
- Storage
- Security
- SALESDB
- Security
- Server Objects
- Replication
- PolyBase
- Management
- XEvent Profiler

SQLQuery2.sql - LA...BCG1\varshith (54):

```
/****** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [Order_ID]
, [Order_Date]
, [Region]
, [Category]
, [Sub_Category]
, [Product_Name]
, [Units_Sold]
, [Sales]
, [Cost]
, [Inventory_Days]
, [Season]
FROM [RetailDB].[dbo].[retail_business_data]
```

SQLQuery1.sql - LA...BCG1\varshith (55):

Results

	Category	total_sale
1	Clothing	76873
2	Electronics	98746
3	Furniture	104447

Object Explorer

Connect

LAPTOP-NHTUBCG1\SQLEXPRESS (SQ)

Databases

- System Databases
- Database Snapshots
- DA
- Data_analysis
- iPhoneFactoryDB
- MyDatabase
- online_food
- OrgAccenture
- RetailDB
 - Database Diagrams
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.retail_business_data
- Views
- External Resources
- Synonyms
- Programmability
- Service Broker
- Storage
- Security
- SALESDB
- Security
- Server Objects
- Replication
- PolyBase
- Management
- XEvent Profiler

SQLQuery2.sql - LA...BCG1\varshith (54):

```
, [Product_Name]
, [Units_Sold]
, [Sales]
, [Cost]
, [Inventory_Days]
, [Season]
FROM [RetailDB].[dbo].[retail_business_data]

-- Before Cleaning the dataset
select * from retail_business_data;
```

SQLQuery1.sql - LA...BCG1\varshith (55):

Results

	Order_ID	Order_Date	Region	Category	Sub_Category	Product_Name	Units_Sold	Sales	Cost	Inventory_Days	Season
1	1	2024-05-08	West	Furniture	Tables	Tables Model 8	16	1815	1237	21	Festive
2	2	2024-06-17	West	Furniture	Tables	Tables Model 6	14	2367	2152	70	Winter
3	3	2024-09-01	East	Clothing	Jeans	Jeans Model 7	12	4083	996	44	Winter
4	4	2024-12-17	East	Clothing	Jeans	Jeans Model 3	18	2197	1027	110	Winter
5	5	2024-02-01	West	Furniture	Sofas	Sofas Model 1	14	3336	1285	76	Summer
6	6	2024-11-27	West	Furniture	Sofas	Sofas Model 6	6	3002	305	52	Winter
7	7	2024-09-13	East	Furniture	Chairs	Chairs Model 5	9	2581	1933	118	Winter
8	8	2024-10-03	North	Clothing	Jackets	Jackets Model 7	7	4007	771	109	Festive
9	9	2024-01-01	East	Furniture	Tables	Tables Model 2	2	3156	2115	44	Festive
10	10	2024-12-12	North	Electronics	Laptops	Laptops Model 4	16	3272	2019	94	Winter
11	11	2024-04-14	East	Clothing	Jeans	Jeans Model 9	17	3257	1993	21	Festive
12	12	2024-03-02	North	Electronics	Phones	Phones Model 2	16	1530	828	63	Summer
13	13	2024-09-18	South	Electronics	Laptops	Laptops Model 7	13	1916	333	95	Summer
14	14	2024-12-09	East	Furniture	Sofas	Sofas Model 5	3	3710	2916	52	Summer
15	15	2024-03-21	East	Electronics	Phones	Phones Model 3	17	2678	832	69	Festive
16	16	2024-08-07	North	Electronics	Laptops	Laptops Model 6	8	3722	3148	11	Winter
17	17	2024-07-07	South	Electronics	Phones	Phones Model 5	18	4086	3733	72	Summer

Object Explorer

Connect

LAPTOP-NHTU8CG1\SQLEXPRESS (S)

Databases

System Databases

Database Snapshots

DA

Data_analysis

iPhoneFactoryDB

MyDatabase

online_food

OrgAccenture

RetailDB

Database Diagrams

Tables

System Tables

FileTables

External Tables

Graph Tables

dbo:retail_business_data

Views

External Resources

Synonyms

Programmability

Service Broker

Storage

Security

SALESDb

Security

Server Objects

Replication

PolyBase

Management

XEvent Profiler

SQLQuery2.sql - LA...8CG1\varshith (S4)*

SQLQuery1.sql - LA...8CG1\varshith (S5)

```
/*Clean Data (SQL) Data Cleaning*/  
  
DELETE FROM retail_business_data  
WHERE Sales IS NULL  
OR Cost IS NULL  
OR Units_Sold IS NULL;  
  
select * from retail_business_data
```

Results

Order_ID	Order_Date	Region	Category	Sub_Category	Product_Name	Units_Sold	Sales	Cost	Inventory_Days	Season
1	2024-05-08	West	Furniture	Tables	Tables Model 8	16	1815	1237	21	Festive
2	2024-06-17	West	Furniture	Tables	Tables Model 6	14	2367	2152	70	Winter
3	2024-05-01	East	Clothing	Jeans	Jeans Model 7	12	4083	996	44	Winter
4	2024-12-17	East	Clothing	Jeans	Jeans Model 3	18	2197	1027	110	Winter
5	2024-02-01	West	Furniture	Sofas	Sofas Model 1	14	3336	1285	76	Summer
6	2024-11-27	West	Furniture	Sofas	Sofas Model 6	6	3002	305	52	Winter
7	2024-09-13	East	Furniture	Chairs	Chairs Model 5	9	2581	1933	118	Winter
8	2024-10-03	North	Clothing	Jackets	Jackets Model 7	7	4007	771	109	Festive
9	2024-01-01	East	Furniture	Tables	Tables Model 2	2	3156	2115	44	Festive
10	2024-12-12	North	Electronics	Laptops	Laptops Model 4	16	3272	2019	94	Winter
11	2024-04-14	East	Clothing	Jeans	Jeans Model 9	17	3257	1993	21	Festive
12	2024-03-02	North	Electronics	Phones	Phones Model 2	16	1530	628	63	Summer
13	2024-09-18	South	Electronics	Laptops	Laptops Model 7	13	1916	333	95	Summer
14	2024-12-09	East	Furniture	Sofas	Sofas Model 5	3	3710	2916	52	Summer
15	2024-03-21	East	Electronics	Phones	Phones Model 3	17	2678	832	69	Festive
16	2024-08-07	North	Electronics	Laptops	Laptops Model 8	8	3722	3148	11	Winter
17	2024-07-07	South	Furniture	Tables	Tables Model 1	19	4056	3733	27	Festive
18	2024-05-18	East	Clothing	Jackets	Jackets Model 6	5	2346	1792	119	Winter
19	2024-09-27	South	Electronics	Accessories	Accessories M...	19	971	847	59	Festive
20	2024-02-22	West	Clothing	Shirts	Shirts Model 3	16	3496	806	103	Summer
21	2024-07-10	North	Clothing	Jackets	Jackets Model 4	5	2861	367	93	Summer

Query executed successfully.

LAPTOP-NHTU8CG1\SQLEXPRESS ... LAPTOP-NHTU8CG1\varshi... RetailDB 00:00:00 200 rows

Object Explorer

Connect

LAPTOP-NHTU8CG1\SQLEXPRESS (S)

Databases

System Databases

Database Snapshots

DA

Data_analysis

iPhoneFactoryDB

MyDatabase

online_food

OrgAccenture

RetailDB

Database Diagrams

Tables

System Tables

FileTables

External Tables

Graph Tables

dbo:retail_business_data

Views

External Resources

Synonyms

Programmability

Service Broker

Storage

Security

SALESDb

Security

Server Objects

Replication

PolyBase

Management

XEvent Profiler

SQLQuery2.sql - LA...8CG1\varshith (S4)*

SQLQuery1.sql - LA...8CG1\varshith (S5)

```
--Use SQL to calculate profit margins by category and sub-category.  
  
select Category,sum(sales - cost) as total_sale  
from retail_business_data  
group by Category
```

Results

Category	total_sale
Clothing	76673
Electronics	98746
Furniture	104447

Query executed successfully.

LAPTOP-NHTU8CG1\SQLEXPRESS ... LAPTOP-NHTU8CG1\varshi... RetailDB

Ready

Ln 38 Col 1 Ch 1 INS

```
[1]
✓ 16s
from google.colab import files
uploaded = files.upload()

Choose Files retail_business_data.csv
retail_business_data.csv (text/csv) - 15299 bytes, last modified: 12/22/2025 - 100% done
Saving retail_business_data.csv to retail_business_data.csv

[3]
✓ 0s
import pandas as pd
df = pd.read_csv('retail_business_data.csv')

[4]
✓ 0s
print(df)
```

	Order_ID	Order_Date	Region	Category	Sub_Category	\
0	1	2024-05-08	West	Furniture	Tables	
1	2	2024-06-17	West	Furniture	Tables	
2	3	2024-05-01	East	Clothing	Jeans	
3	4	2024-12-17	East	Clothing	Jeans	
4	5	2024-02-01	West	Furniture	Sofas	
...
195	196	2024-02-03	North	Furniture	Tables	
196	197	2024-07-28	West	Electronics	Laptops	
197	198	2024-06-05	East	Clothing	Jeans	
198	199	2024-06-01	North	Electronics	Accessories	
199	200	2024-05-23	East	Electronics	Phones	
	Product_Name	Units_Sold	Sales	Cost	Inventory_Days	Season
0	Tables Model 8	16	1815	1237	21	Festive
1	Tables Model 6	14	2367	2152	70	Winter
2	Jeans Model 7	12	4083	996	44	Winter
3	Jeans Model 3	18	2197	1027	110	Winter
4	Sofas Model 1	14	3336	1285	76	Summer
...

```
print(df.head())
```

	Order_ID	Order_Date	Region	Category	Sub_Category	Product_Name	\
0	1	2024-05-08	West	Furniture	Tables	Tables Model 8	
1	2	2024-06-17	West	Furniture	Tables	Tables Model 6	
2	3	2024-05-01	East	Clothing	Jeans	Jeans Model 7	
3	4	2024-12-17	East	Clothing	Jeans	Jeans Model 3	
4	5	2024-02-01	West	Furniture	Sofas	Sofas Model 1	
	Units_Sold	Sales	Cost	Inventory_Days	Season		
0	16	1815	1237	21	Festive		
1	14	2367	2152	70	Winter		
2	12	4083	996	44	Winter		
3	18	2197	1027	110	Winter		
4	14	3336	1285	76	Summer		

```
#Use Python (Pandas) to run correlation between inventory days and profitability
df['Profit'] = df['Sales'] - df['Cost']

# Verify
print(df[['Sales', 'Cost', 'Profit']].head())
```

	Sales	Cost	Profit
0	1815	1237	578
1	2367	2152	215
2	4083	996	3087
3	2197	1027	1170
4	3336	1285	2051