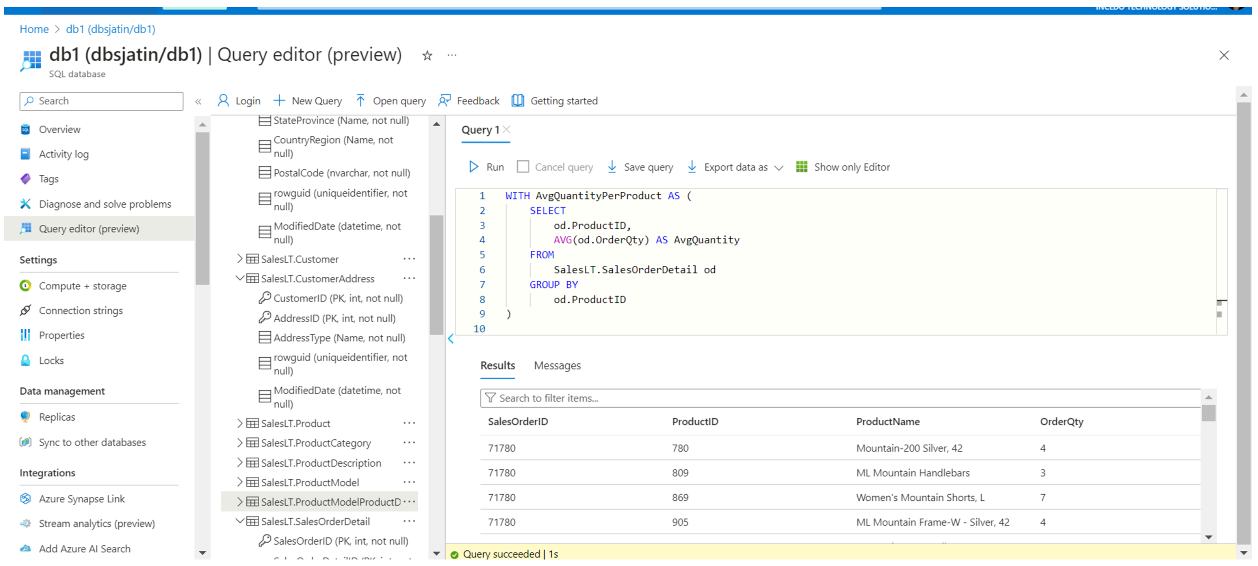
FEB 4th - MODULE 2



StateProvince (Name, not null)
CountryRegion (Name, not null)
PostalCode (nvarchar, not null)
rowguid (uniqueidentifier, not null)
ModifiedDate (datetime, not null)
SalesLT.Customer
SalesLT.CustomerAddress
CustomerID (PK, int, not null)
AddressID (PK, int, not null)
AddressType (Name, not null)
rowguid (uniqueidentifier, not null)
ModifiedDate (datetime, not null)
SalesLT.Product
SalesLT.ProductCategory
SalesLT.ProductDescription
SalesLT.ProductModel
SalesLT.ProductModelProductD
SalesLT.SalesOrderDetail
SalesOrderID (PK, int, not null)

```sql
WITH AvgQuantityPerProduct AS (
    SELECT
        od.ProductID,
        AVG(od.OrderQty) AS AvgQuantity
    FROM
        SalesLT.SalesOrderDetail od
    GROUP BY
        od.ProductID
)
```

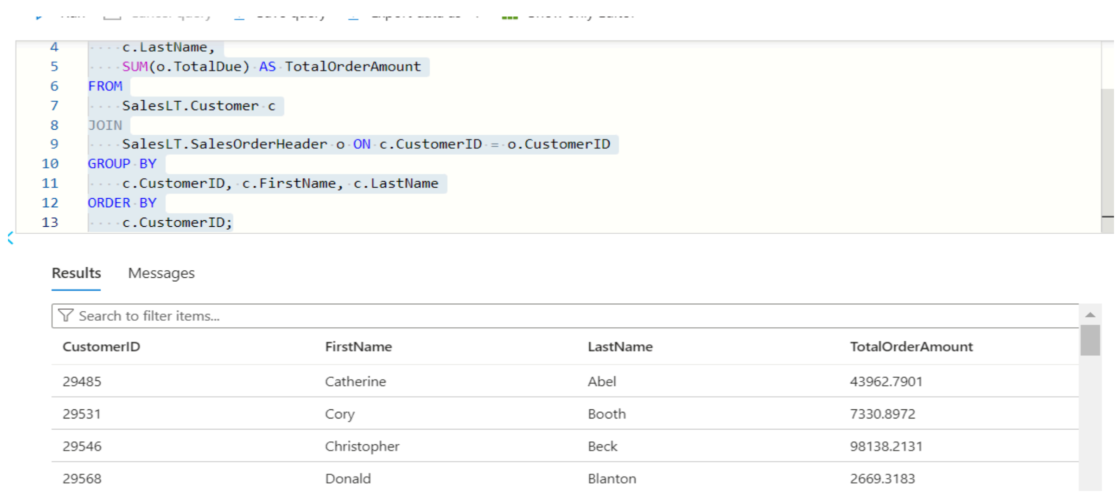
SalesOrderID	ProductID	ProductName	OrderQty
71780	780	Mountain-200 Silver, 42	4
71780	809	ML Mountain Handlebars	3
71780	869	Women's Mountain Shorts, L	7
71780	905	ML Mountain Frame-W - Silver, 42	4

Query succeeded | 1s

MODULE 2

1. **Retrieve a list of customers along with their total order amounts.**

```sql
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    SUM(o.TotalDue) AS TotalOrderAmount
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader o ON c.CustomerID = o.CustomerID
GROUP BY
    c.CustomerID, c.FirstName, c.LastName
ORDER BY
    c.CustomerID;
```



```
    c.LastName,
    SUM(o.TotalDue) AS TotalOrderAmount
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader o ON c.CustomerID = o.CustomerID
GROUP BY
    c.CustomerID, c.FirstName, c.LastName
ORDER BY
    c.CustomerID;
```

Results Messages

Search to filter items...

CustomerID	FirstName	LastName	TotalOrderAmount
29485	Catherine	Abel	43962.7901
29531	Cory	Booth	7330.8972
29546	Christopher	Beck	98138.2131
29568	Donald	Blanton	2669.3183

2. Display product information along with the number of units sold for each product.

```
SELECT
    p.ProductID,
    p.Name AS ProductName,
    p.ProductNumber,
    p.Color,
    SUM(od.OrderQty) AS TotalUnitsSold
FROM
    SalesLT.Product p
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
JOIN
    SalesLT.SalesOrderHeader oh ON od.SalesOrderID = oh.SalesOrderID
GROUP BY
    p.ProductID, p.Name, p.ProductNumber, p.Color
ORDER BY
    p.ProductID;
```

3. Find employees who have the same manager.

Data not available.

4. List all customers who have never placed an order.

```
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName
FROM
    SalesLT.Customer c
LEFT JOIN
    SalesLT.SalesOrderHeader o ON c.CustomerID = o.CustomerID
WHERE
    o.CustomerID IS NULL;
```

5. Retrieve the total sales amount for each product category.

```
SELECT
    pc.ProductCategoryID,
    pc.Name AS CategoryName,
    SUM(od.OrderQty * od.UnitPrice) AS TotalSalesAmount
FROM
    SalesLT.ProductCategory pc
JOIN
    SalesLT.Product p ON pc.ProductCategoryID = p.ProductCategoryID
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
JOIN
    SalesLT.SalesOrderHeader oh ON od.SalesOrderID = oh.SalesOrderID
GROUP BY
    pc.ProductCategoryID, pc.Name
ORDER BY
    pc.ProductCategoryID;
```

6. Display the names of employees and their direct managers.

Data not available

7. Show the order details with product names for a specific customer.

```
SELECT
    oh.SalesOrderID,
    od.ProductID,
    p.Name AS ProductName,
    od.OrderQty,
    od.UnitPrice,
    od.LineTotal
FROM
```

```
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
WHERE
    c.CustomerID = 29485;
```

8. List customers who have made purchases in the last 30 days.

```
SELECT DISTINCT
    c.CustomerID,
    c.FirstName,
    c.LastName
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
WHERE
    oh.OrderDate >= DATEADD(day, -30, GETDATE());
```

9. Find employees who do not have any direct reports.

Data Not available

10. Retrieve all products along with their average selling prices.

```
SELECT
    p.ProductID,
    p.Name AS ProductName,
    AVG(od.UnitPrice) AS AverageSellingPrice
FROM
    SalesLT.Product p
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
GROUP BY
    p.ProductID, p.Name
ORDER BY
    p.ProductID;
```

11. Find the order with the highest total amount.

```sql
SELECT TOP 1
    oh.SalesOrderID,
    oh.OrderDate,
    SUM(od.LineTotal) AS TotalAmount
FROM
    SalesLT.SalesOrderHeader oh
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
GROUP BY
    oh.SalesOrderID, oh.OrderDate
ORDER BY
    TotalAmount DESC;
```

12. Display customers who have placed orders with a total amount greater than the average.

```sql
WITH CustomerOrderTotals AS (
    SELECT
        c.CustomerID,
        c.FirstName,
        c.LastName,
        SUM(od.LineTotal) AS TotalAmount
    FROM
        SalesLT.Customer c
    JOIN
        SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
    JOIN
        SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
    GROUP BY
        c.CustomerID, c.FirstName, c.LastName
)

SELECT
    CustomerID,
    FirstName,
    LastName,
    TotalAmount
FROM
    CustomerOrderTotals
WHERE
    TotalAmount > (SELECT AVG(TotalAmount) FROM CustomerOrderTotals);
```

13.List products with prices higher than the average product price.

```sql
WITH ProductPrices AS (
    SELECT
        ProductID,
        Name AS ProductName,
        ListPrice
    FROM
        SalesLT.Product
)

SELECT
    ProductID,
    ProductName,
    ListPrice
FROM
    ProductPrices
WHERE
    ListPrice > (SELECT AVG(ListPrice) FROM ProductPrices);
```

14.Retrieve orders placed by employees who have a specific job title.

Data not available

15.Display customers who have placed orders for a specific product category.

```sql
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
JOIN
```

```
    SalesLT.ProductCategory pc ON p.ProductCategoryID =
pc.ProductCategoryID
WHERE
    pc.ProductCategoryID = 22;
```

16.Find employees with salaries greater than the average salary in their department.

Data Not available

17.List customers who have placed orders before a specific date.

Enough data not available for query

```
SELECT DISTINCT
    c.CustomerID,
    c.FirstName,
    c.LastName
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
WHERE
    oh.OrderDate < 2008-07-02;
```

18.Retrieve the order with the highest quantity of a specific product.

```
SELECT TOP 1
    od.SalesOrderID,
    od.ProductID,
    p.Name AS ProductName,
    SUM(od.OrderQty) AS TotalQuantity
FROM
    SalesLT.SalesOrderDetail od
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
WHERE
    od.ProductID = 714
GROUP BY
    od.SalesOrderID, od.ProductID, p.Name
ORDER BY
    TotalQuantity DESC;
```

19.Display products with prices lower than the lowest product price in a specific category.

```
WITH ProductPrices AS (
    SELECT
        p.ProductID,
        p.Name AS ProductName,
        p.ListPrice,
        pc.ProductCategoryID
    FROM
        SalesLT.Product p
    JOIN
        SalesLT.ProductCategory pc ON p.ProductCategoryID =
pc.ProductCategoryID
    WHERE
        pc.ProductCategoryID = 11
)

SELECT
    ProductID,
    ProductName,
    ListPrice
FROM
    ProductPrices
WHERE
    ListPrice < (SELECT MIN(ListPrice) FROM ProductPrices);
```

20.Find employees who have the same job title as their manager.

Data not available

21.Combine results from two queries to get a list of unique customer and employee names.

Data Not Available

22.Retrieve product names that are common in two different product categories.

Not enough data available

```
SELECT
    p.Name AS ProductName
FROM
```

```
    SalesLT.Product p
JOIN
    SalesLT.ProductCategory pc1 ON p.ProductCategoryID =
pc1.ProductCategoryID
JOIN
    SalesLT.ProductCategory pc2 ON p.ProductCategoryID =
pc2.ProductCategoryID
WHERE
    pc1.ProductCategoryID <> pc2.ProductCategoryID;
```

23.Display the names of employees and customers in a single result set.

Data Not Available

24.List products that are in stock or have been discontinued.

Data Not Available

25.Combine the results of two queries to find unique products ordered by a specific customer.

```
SELECT DISTINCT
    p.ProductID,
    p.Name AS ProductName
FROM
    SalesLT.Product p
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
JOIN
    SalesLT.SalesOrderHeader oh ON od.SalesOrderID = oh.SalesOrderID
WHERE
    oh.CustomerID = 29485

UNION

SELECT DISTINCT
    p.ProductID,
    p.Name AS ProductName
FROM
    SalesLT.Product p
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
```

```
ORDER BY
    ProductID;
```

26.Retrieve orders placed by customers and employees in a single result set.

Data not available

27.Display products that are either in a specific category or have a specific safety stock level.

Data not Available

28.List customers who have placed orders and employees who have direct reports in a single result set.

Data Not Available

29.Retrieve products that are in stock in one location and out of stock in another.

Data Not Available

30.Combine information about employees who are managers and employees who have managers

Data Not Available

INTERMEDIATE

31.Retrieve a list of customers along with the names of the products they have purchased.

```
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    p.Name AS ProductName
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
ORDER BY
    c.CustomerID, p.ProductID;
```

32.Display employees who have the same manager, including indirect reports.

Data Not Available

33.Find orders with multiple products and display the product names.

```
SELECT
    oh.SalesOrderID,
    COUNT(DISTINCT od.ProductID) AS NumberOfProducts,
    STRING_AGG(p.Name, ', ') AS ProductNames
FROM
    SalesLT.SalesOrderHeader oh
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
GROUP BY
    oh.SalesOrderID
HAVING
    COUNT(DISTINCT od.ProductID) > 1;
```

34.List customers along with the names of the salespeople who handled their orders.

Data Not Available

35.Retrieve a list of products along with the names of suppliers.

Data Not Available

36.Display customers who have placed orders and the products they have purchased, including product details.

```
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    oh.SalesOrderID,
    p.ProductID,
    p.Name AS ProductName,
    od.OrderQty,
    od.UnitPrice
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
```

```sql
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
ORDER BY
    c.CustomerID, oh.SalesOrderID, p.ProductID;
```

37.Find orders where multiple employees were involved, showing the employee names.

Data Not Available

38.List products that have similar names but belong to different categories.

Data Not Enough

39.Retrieve a list of employees along with their training courses and training dates.

Data Not Available

40.Display customers who have placed orders and the total quantity of each product ordered.

```sql
SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    p.ProductID,
    p.Name AS ProductName,
    SUM(od.OrderQty) AS TotalQuantity
FROM
    SalesLT.Customer c
JOIN
    SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
JOIN
    SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
JOIN
    SalesLT.Product p ON od.ProductID = p.ProductID
GROUP BY
    c.CustomerID, c.FirstName, c.LastName, p.ProductID, p.Name
ORDER BY
    c.CustomerID, p.ProductID;
```

41.Find customers who have made more purchases than the average number of purchases.

Not Enough Data

```
  WITH CustomerPurchaseCounts AS (
    SELECT
        c.CustomerID,
        COUNT(DISTINCT oh.SalesOrderID) AS PurchaseCount
    FROM
        SalesLT.Customer c
    JOIN
        SalesLT.SalesOrderHeader oh ON c.CustomerID = oh.CustomerID
    JOIN
        SalesLT.SalesOrderDetail od ON oh.SalesOrderID = od.SalesOrderID
    GROUP BY
        c.CustomerID
)

SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    c.EmailAddress,
    c.Phone,
    c.CompanyName
FROM
    SalesLT.Customer c
JOIN
    CustomerPurchaseCounts pc ON c.CustomerID = pc.CustomerID
WHERE
    pc.PurchaseCount > (SELECT AVG(PurchaseCount) FROM
CustomerPurchaseCounts);
```

42.Display products that have been ordered more than the average number of times.

```
WITH ProductOrderCounts AS (
    SELECT
        p.ProductID,
        p.Name AS ProductName,
        COUNT(od.SalesOrderID) AS OrderCount
    FROM
        SalesLT.Product p
    JOIN
        SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
    GROUP BY
        p.ProductID, p.Name
)

SELECT
    ProductID,
    ProductName,
    OrderCount
FROM
    ProductOrderCounts
WHERE
    OrderCount > (SELECT AVG(OrderCount) FROM ProductOrderCounts);
```

43.Retrieve orders placed by employees who have completed a specific training course.

Data Not Available

44.List employees who have a higher salary than at least one employee in another department.

Data Not Available

45.Display products that have not been ordered in the last 60 days.

Data Not Available

46.Find employees who have the same job title as the employee with the highest salary.

Data Not Available

47.List customers who have placed orders with a total amount greater than the total amount of a specific order.

48.Retrieve products that have been ordered by customers with the same shipping address.

Not Enough Data

```
WITH CustomerShippingAddresses AS (
    SELECT
        ca.CustomerID,
        ca.AddressID,
        a.AddressLine1,
        a.AddressLine2,
        a.City,
        a.StateProvince,
        a.CountryRegion,
        a.PostalCode
    FROM
        SalesLT.CustomerAddress ca
    JOIN
        SalesLT.Address a ON ca.AddressID = a.AddressID
)

SELECT
    p.ProductID,
    p.Name AS ProductName,
    od.SalesOrderID,
    csa.CustomerID,
    csa.AddressID,
    csa.AddressLine1,
    csa.AddressLine2,
    csa.City,
    csa.StateProvince,
    csa.CountryRegion,
    csa.PostalCode
FROM
    SalesLT.Product p
JOIN
    SalesLT.SalesOrderDetail od ON p.ProductID = od.ProductID
JOIN
    SalesLT.SalesOrderHeader oh ON od.SalesOrderID = oh.SalesOrderID
JOIN
    CustomerShippingAddresses csa ON oh.CustomerID = csa.CustomerID
WHERE
    oh.ShipToAddressID IN (
        SELECT
            ShipToAddressID
        FROM
            SalesLT.SalesOrderHeader
        GROUP BY
            ShipToAddressID
        HAVING
            COUNT(DISTINCT CustomerID) > 1
    );
```