--Task 6: Non-Correlated & Correlated Subquery

--Task 6 **ROUGH WORK[DOUBLE CHECK FOR ERRORS]** - **work [ REMOVE UOP.DBO. AND THE $ SIGN AND THEN EXECUTE THE QUERIES.]**

for example the query

**SELECT \* FROM uop.dbo.FactSales$;**

Should be typed as

**SELECT \* FROM FactSales;**

--Run the following query - Sub query is executed independently – does not need main query

--Return all products and their sales from the DimProduct and FactSales tables where the quantity sold is greater than the average quantity sold across all sales.

SELECT \* FROM uop.dbo.DimProduct$

inner join uop.dbo.FactSales$

on uop.dbo.FactSales$.ProductCode = uop.dbo.DimProduct$.ProductCode

WHERE Quantity > (SELECT AVG(Quantity) from uop.dbo.FactSales$);

--Run the following query - Sub query is part of the outer query and won’t run independently

SELECT Quantity, CostAmount, SalesAmount FROM uop.dbo.FactSales$ fs

WHERE Quantity > (SELECT AVG(Quantity) FROM uop.dbo.FactSales$

WHERE fs.Quantity > 35 )

/\*Unlike a regular subquery that runs once independently, a correlated subquery is tied to the outer query — it runs once for each row being considered in the outer query.

In this case, the subquery depends on the outer query's row through fs.Quantity.\*/

--1. List the details of the sales that have more than the average cost amount.

Select SalesAmount, Quantity, ProductCode, CostAmount

From uop.dbo.FactSales$

Where CostAmount > (Select AVG(costAmount) from uop.dbo.FactSales$)

--2. List the details of the sales that have more than the average sales amount for 2019.

SELECT SalesAmount, Quantity, ProductCode, CostAmount, FullDateTime

FROM uop.dbo.FactSales$

WHERE SalesAmount > (

SELECT AVG(SalesAmount)

FROM uop.dbo.FactSales$

WHERE YEAR(FullDateTime) = 2019

);

--3. List the details of the sales that have equal or less than average quantity.

SELECT SalesAmount, Quantity, ProductCode, CostAmount, FullDateTime

FROM uop.dbo.FactSales$

WHERE Quantity <= (

SELECT AVG(Quantity)

FROM uop.dbo.FactSales$

);

--4 A. LIST THE DETAILS OF tOP 25 SALES

Select TOP (25) SalesAmount, Quantity, ProductCode, CostAmount

From uop.dbo.FactSales$

order by SalesAmount desc;

/\*4. List the details of the sales that have more or equal than the average SalesAmount of the top 25 sales in SalesAmount.

[Return all sales records where the SalesAmount is greater than or equal to the average of the top 25 highest SalesAmounts in the table.]\*/

SELECT SalesAmount, Quantity, ProductCode, CostAmount, FullDateTime

FROM uop.dbo.FactSales$

WHERE SalesAmount >= (

SELECT AVG(SalesAmount)

FROM (

SELECT TOP 25 SalesAmount

FROM uop.dbo.FactSales$

ORDER BY SalesAmount DESC

) AS Top25Sales

);

--EXTRA QUERIES -

--1

SELECT \* FROM uop.dbo.DimProduct$ inner join uop.dbo.FactSales$ on uop.dbo.FactSales$.ProductCode = uop.dbo.DimProduct$.ProductCode WHERE Quantity > (SELECT AVG(Quantity) from uop.dbo.FactSales$);

--2

SELECT \*

FROM uop.dbo.DimProduct$ inner join uop.dbo.FactSales$ on uop.dbo.FactSales$.ProductCode = uop.dbo.DimProduct$.ProductCode

WHERE Quantity > (

SELECT AVG(Quantity)

FROM uop.dbo.FactSales$

WHERE Convert(date, FullDateTime) in (

SELECT Convert(date, FullDateTime)

FROM uop.dbo.FactWaste$ inner join uop.dbo.DimProduct$ on uop.dbo.FactWaste$.ProductCode = uop.dbo.DimProduct$.ProductCode left outer join uop.dbo.FactSales$ on uop.dbo.DimProduct$.ProductCode = uop.dbo.FactSales$.ProductCode

WHERE Convert(date, FullDateTime) = uop.dbo.FactWaste$.FullDate

)

);