--DAwSQL Session -8

--E-Commerce Project Solution

--1. Join all the tables and create a new table called combined\_table. (market\_fact, cust\_dimen, orders\_dimen, prod\_dimen, shipping\_dimen)

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--2. Find the top 3 customers who have the maximum count of orders.

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--3.Create a new column at combined\_table as DaysTakenForDelivery that contains the date difference of Order\_Date and Ship\_Date.

--Use "ALTER TABLE", "UPDATE" etc.

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--4. Find the customer whose order took the maximum time to get delivered.

--Use "MAX" or "TOP"

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--5. Count the total number of unique customers in January and how many of them came back every month over the entire year in 2011

--You can use such date functions and subqueries

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--6. write a query to return for each user the time elapsed between the first purchasing and the third purchasing,

--in ascending order by Customer ID

--Use "MIN" with Window Functions

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--7. Write a query that returns customers who purchased both product 11 and product 14,

--as well as the ratio of these products to the total number of products purchased by the customer.

--Use CASE Expression, CTE, CAST AND such Aggregate Functions

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--CUSTOMER RETENTION ANALYSIS

--1. Create a view that keeps visit logs of customers on a monthly basis. (For each log, three field is kept: Cust\_id, Year, Month)

--Use such date functions. Don't forget to call up columns you might need later.

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--2. Create a view that keeps the number of monthly visits by users. (Separately for all months from the business beginning)

--Don't forget to call up columns you might need later.

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--3. For each visit of customers, create the next month of the visit as a separate column.

--You can number the months with "DENSE\_RANK" function.

--then create a new column for each month showing the next month using the numbering you have made. (use "LEAD" function.)

--Don't forget to call up columns you might need later.

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--4. Calculate the monthly time gap between two consecutive visits by each customer.

--Don't forget to call up columns you might need later.

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--5.Categorise customers using time gaps. Choose the most fitted labeling model for you.

-- For example:

-- Labeled as churn if the customer hasn't made another purchase in the months since they made their first purchase.

-- Labeled as regular if the customer has made a purchase every month.

-- Etc.

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--MONTH-W�SE RETENT�ON RATE

--Find month-by-month customer retention rate since the start of the business.

--1. Find the number of customers retained month-wise. (You can use time gaps)

--Use Time Gaps

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--2. Calculate the month-wise retention rate.

--Basic formula: o Month-Wise Retention Rate = 1.0 \* Total Number of Customers in The Previous Month / Number of Customers Retained in The Next Nonth

--It is easier to divide the operations into parts rather than in a single ad-hoc query. It is recommended to use View.

--You can also use CTE or Subquery if you want.

--You should pay attention to the join type and join columns between your views or tables.

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--Good luck!