COURSE 2 - MYSQL DATABASE

(Unit -1-4: DDL and DML Commands Practice Questions)

Instructions:

- Make sure to follow the standards and naming conventions while creating tables, columns, etc.
- Please create a database schema before starting SQL operations if the schema doesn't exist.
- Ensure you set the database scheme you want to work with before starting SQL operations.
- Make sure to include audit columns with default values when creating tables so the system will use them if the user provides no value.
- Be sure to include the necessary columns when creating tables to maintain the history of the event or transaction.

4.1 Creating Table

1. Create a table **"Customer"** with two columns such as Customer ID and Customer Name.
2. Replace the existing table **"Customer"** with two more Columns Email and Contact Number.
3. Create a **Currency** Table with two Columns Currency code and Currency . Currency code has a primary key.
4. Create a **Product** table with Product ID, Product Name . Product ID as AutoIncrement Field and Product Name with Not Null Constraints.
5. Create a **User** table with UserID Primary key which accepts a string of 4 characters , username with 15 characters, last_login that should accept only date and Time.
6. Create Table Account **Group Master** with two Column Group code and Group Name with storage Engine MyISAM. (Check which is the default storage engine).

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7. Create a table "**Customer Favourite**" with customer ID, Product Code, Last Purchase Date with two primary keys Customer ID and Product Code
8. List all the tables under this database
9. Show the structure of the Table **Customer**

4.2 Insert Operations

1. Insert 5 rows into the **Customer** Table one by one.
2. Insert 10 rows into the **Customer** Table using a Single Insert query.
3. Insert a new record into the **Product** table with auto-generated product_id.
4. Insert a new record into the **User** table , for current date time use now().
5. Insert/load data into a table **DSAI_T_Sales** from a CSV file - use all the columns in the file
6. Insert/load data into a table **DSAI_T_Sales** for the below given columns from the CSV file .(Change CSV file according to the requirement)
    a. Customer_ID
    b. Product_Code
    c. Sales_Date
    d. Sales_Quantity
    e. Location_code

7. Insert/load data into a table **DSAI_T_Sales** for the below given columns from the CSV file .(Change CSV file according to the requirement)
    a. Customer_ID
    b. Product_Code
    c. Sales_Date
    d. Sales_Quantity
    e. Location_code

   Set the default values to other columns such as
    A. Created_DT - current DateTime
    B. Created_User - DSAI_User2
8. Insert data into a table **DSAI_M_Customer_Dup** from **DSAI_M_Customer** - use all the columns in the table in the same order.

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9. Insert data into a **DSAI_M_Product_Dup** from **DSAI_M_Product table** - Leave the Product_Group_Code as Empty

10. Create Primary key to **DSAI_T_Sales** Table for Sales_Date, Customer_ID,Product_Code

11. Add Foreign key Reference in **DSAI_T_Sales** Refer to Prouduct Master and Unit Price Master.

Instructions:

Set Database : Sales

4.3 Update Operations

1. Update the address of the **DSAI_M_Customer** with ID 2 as '789 Elm St'.
2. Increase the unit price of all products in **DSAI_M_Unit_Price** table 'PG001' by 10%.
3. Update the **DSAI_T_Sales** table by loyalty program code for customers who have made purchases above $50 to 'LPC003'.
4. Update the **DSAI_M_Location** by Changing the location name of the location with code 'L002' to 'T Nagar'.
5. Update the **DSAI_T_Sales** by sales quantity for all transactions made in February 2010 to be 5% higher than the original quantity.
6. Update **DSAI_T_Sales** by Setting the promotion code for all sales made on or after Feb 1, 2010, to 'PRO0001'.

4.4 Alter Command

1. In the Discount Master Table , Add Column Discount_Perc with Data type Decimal. And Update percentage into the table.
2. ADD Constraint to **DSAI_T_Sales . Sales_Date** to **DSAI_M_Sales_Period. Sales_Date**
3. Change Column data type to Enum for the column History in **Dsai_T_Sales**
4. Add Index to **Dsai_M_Customer Table (Customer_ID)**
5. Change the Column Name "Name" in Customer Table to **Customer Name** and Datatype **Varchar(100)**

6. Drop Index created in Q4
7. Drop Constraint Created in Q2
8. ADD Primary key to the column Product Group Code in table **DSAI_Product_Group**

4.5 Delete Operations

1. Delete the customer with the ID C000003 from the **DSAI_M_Customer** database.
2. Remove all products belonging to the product group 'Oil from **DSAI_M_Product'.**
3. Remove all products from the **DSAI_M_Product** table with a unit price greater than 100.
4. Remove customers who have not made any purchases from **DSAI_M_Customer.**
5. Delete the oldest 100 sales records from the **DSAI_T_Sales** database.
6. Delete all sales records from the **DSAI_T_Sales** table where the sales quantity is zero.
7. Remove all discount codes from the **DSAI_M_Discount_code** table that are marked as expired.
8. Delete all records from the **DSAI_M_Sales_Period** table for the year 2022.

4.6 Drop Operations

1. Drop the **DSAI_M_Product_Group** table from the database.
2. Remove the **DSAI_Sales** table if it exists.

4.7 Truncate Operations

1. Remove all the data from the **DSAI_M_Customer** table without using the delete command.
2. Truncate the **DSAI_M_Product_Group** table.
3. Remove all data from the **DSAI_Sales table** and retain the structure.
4. Truncate the **DSAI_M_Discount_Code** table to eliminate all discount code entries.
5. Clear all records from the **DSAI_M_Location_Code** table using TRUNCATE.