ASSIGNMENT 3

Data and MySQL

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Question 01:

Design and implement a database that solves a specific problem as per your chosen theme.

Scenario:

TRIVIA CHALLENGE

I'm helping my friend who owns HumanTechnologyMart to manage their growing stock of electronics, furniture, and appliances. The idea is to build a system that tracks inventory, connects products to suppliers, and records customer transactions accurately.

To do this, I'm creating a database to store key details about products (like name, category, price, stock), suppliers (name, contact info, location), and customers (name, email, age, location). I'll also set up a transactions table to record each sale, and every time a customer makes a purchase, the system will automatically update the stock and save the sale details.

I've built a stored procedure that handles adding transactions while updating the product stock. If a product is out of stock, the system will stop the sale and send an alert. For example, if someone buys a tablet, the system will update the tablet's stock accordingly, keeping inventory accurate.

Each product is tied to its supplier, making reordering simple. For example, Elite provides laptops and headphones, while Quick Supply handles gaming chairs and monitors. This helps with restocking when items run low.

I'll also run queries to generate reports, like total sales for each product, total units sold, and summaries of all purchases. For instance, I'll calculate how much revenue came from smartphones by adding up all the related sales.

If a customer cancels an order, like when Camila canceled her purchase of 2 headphones, the system will remove the transaction and update the stock. If HumanTechnologyMart decides to discontinue a product, like the Desk Lamp, I'll ensure the item is removed from the system without affecting anything else.

Lastly, I'll use built-in functions to analyze daily sales, sort transactions by date, and give the owner a clear view of how the store is performing. This system will help HumanTechnologyMart manage its inventory and transactions more efficiently as the business continues to grow.

Objectives:

+ Create a database with at least 3 tables with several columns, use good naming

conventions

+ Link tables using primary and foreign keys effectively

+ Populate the database with at least 8 rows of mock data per table to show use of DML

commands.

+ Keep in your code all commands you used to set up your database, tables, and all demo queries.

+ Use at least 3 different data types while creating tables

+ Use at least 2 constraints while creating tables, not including primary key or foreign key

+ Use at least 3 queries to insert data

+ Use at least 5 queries to retrieve data

+ Use at least 1 query to delete data

+ Use at least 2 aggregate functions

+ Use at least 2 joins

+ Use at least 2 additional in-built functions (to the two aggregate functions already counted in previous point)

+ Use data sorting for majority of queries with ORDER BY

+ Create and use one stored procedure or function to achieve a goal

+ Normalise the DB by splitting the data out in tables where appropriate and not containing any duplicate data.

+ Provide a creative scenario of use