A Service and Product Database

Validate and complete the given ER diagram Design for following database that manages and organizes customers, products, staffs and services for a company. Check if the diagram represents the database in the description and are able to get information in the requirement. Modify the ER diagram if needed.

Translate the ER diagram to relational schema.

Your database will have the following requirements:

1. A product has a buy-in ordering history with quantity and ordering price.
2. A customer can require many services.
3. Each service takes care by one staff member and might require different products.
4. A main warehouse holds majority of the inventory.
5. Each staff holds some products.
6. The product has to show the total quantity in stock, whether it’s held in the warehouse, by staff, or both.

You must enter at least the following information into your database.

1. Five customers
2. Fifteen services
3. Twenty products sold
4. Ten staffs
5. Ten products
6. Fifteen price history

Requirement: generate SQL commands to answer the following queries:

1. Display account 12345-00’s information, customer’s full name, company name, address, phone number which might be enter either by 10 digits or with optional -
2. Identify all products if the quantity is less than 3 in the main warehouse. Display the product name, SKU number and vendor name.
3. Identify the quantity sold for each product last 7 days, display the product name, quantity sold and SKU number, sort the result by product name.
4. Identify all service requests which required by customer John Smith. Display the service name, request date and time, the staff that did the service, the date and time the service starts and ends, and the status if the service is complete.
5. Create a bill for customer John Smith for services completed yesterday. Display the customer name, service name, request date, working staff name, and total cost. Then display a detailed bill on each product and quantity used, with the selling price.
Extra credit. Identify current year’s margin on each product. Display the margin, product name and SKU number. (For simplicity, you may use the maximum buy-in price for the calculation)

Other requirements

1. All questions and output must include at least one row displayed
2. Identify and create primary keys for each table
3. Normalize your database design (relational schema) to at least third normal form (3NF)
4. Create foreign keys to enforce referential integrity
5. Your project must include the question, SQL command to answer the question and output from the SQL command. You also need to include the SQL commands to create tables and insert records.
6. Each student has to identify the steps that’re done by each student within the group.
7. No one student should skip all questions required for each part.
8. Your project must be submitted during your lecture if you plan to present your project to the class and submit it to blackboard.

A group who submits a project that is too similar to another group’s work will receive a ZERO for the project. Additional penalties may be imposed.

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