

Group 8

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Milestone 1

Introduction

This Database is for a Jewelry company. In the jewelry industry, a jewelry company would buy manufactured products from suppliers and then sell it through its own stores. It would need to keep track of the products purchased from the suppliers and how much money to pay for it. Then it would need to store it in its retail stores where it will have to keep track of the inventory of each product. Then comes the most important step of selling and calculating the profits. For this, it will need to track the price of a single product, how much of the product was sold to a customer, the information of the customer, and more. We chose this topic because one of our group members works as a jewelry vendor during the weekend. She told us that she has troubles managing her inventory. Although this database does not completely serve her purpose considering the larger scale of the database, we thought we could take inspiration from her experiences.

Problem Statement

The company needs to keep track of orders, suppliers, retailers, employees, products etc. To do all this efficiently and avoid errors, they need to have a database.

Solution

We will create a normalized database that keeps track of all entities such as products, customers, and more. By avoiding redundant and repetitive data, the company can conveniently utilize the database to meet their requirements.

Requirements

Payments

Inventory Management

Customers, Products, Suppliers, Retailers

Money earned

Supply chain management

Order tracking

Milestone 2

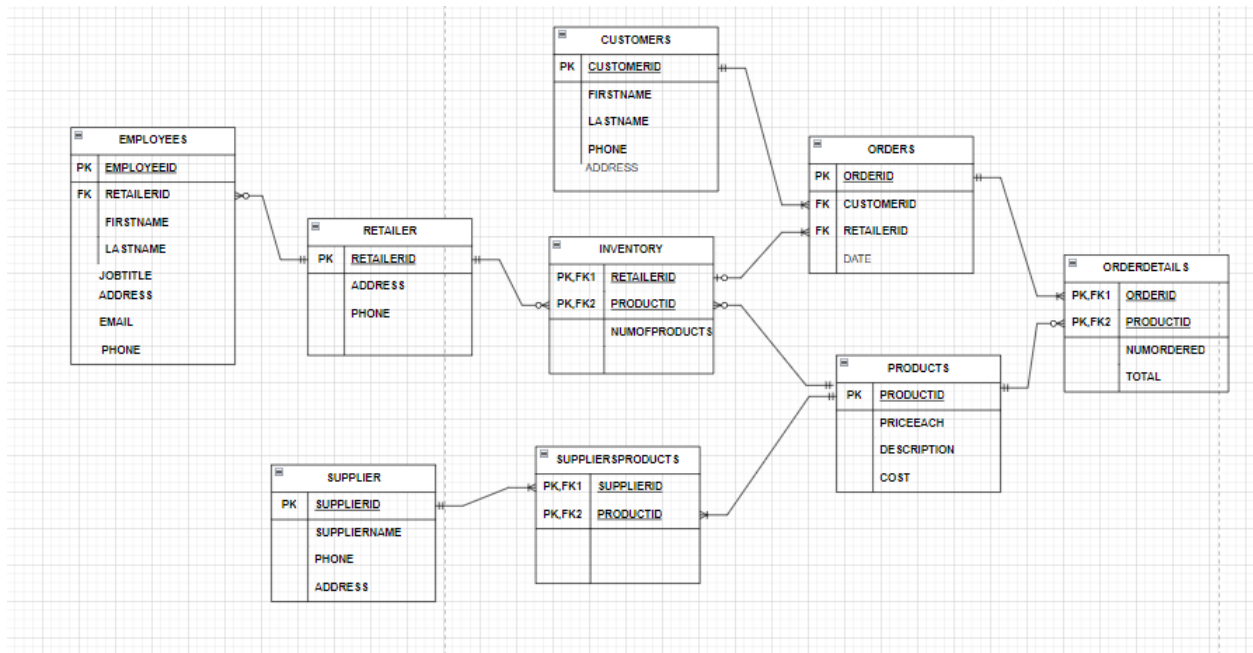


TABLE: Customers

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
customerid	NUMBER	7		PK	Y	100000-999999	100000	
firstName	VARCHAR	25			Y		"Bob"	
lastName	VARCHAR	25			Y		"McKenzie"	
phone	NUMBER	11			Y	2000000000-9999999999	9055551212	Assuming North American phone number
address	VARCHAR	100			N		2821 Tolmie St., Vancouver	

TABLE: ORDERS

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
ORDERID	NUMBER	8		PK	Y	1-999999	123456	
CUSTOMERID	NUMBER	7		FK	Y	1-999999	1234	
RETAILERID	NUMBER	4		FK	Y	1-99999999	1234	

Date	Date				Y		2023-01-30	Date of birth (YYYY-MM-DD)
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TABLE: Products

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
PRODUCTID	NUMBER	8		PK	Y	10000000-99999999	12345678	
PRICEEACH	NUMBER	7			Y	1-9999	3	Selling price to consumers for one product without tax
DESCRIPTION	VARCHAR	25			Y		"Jade Bracelet"	Name of the product
CostToMake	NUMBER	7			Y	1-9999	55	Cost of purchase from supplier or making

TABLE: ORDERDETAILS

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
ORDERID	NUMBER	8		PK/FK	Y	1-999999	123456	
PRODUCTID	NUMBER	8		PK/FK	Y	10000000-99999999	12345678	
NumOrdered	NUMBER	5			Y	1-9999	1234	Amount of the product that has been ordered
Total	NUMBER	11			Y	'1-999999999	123456789	Total

TABLE: Suppliers

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
supplierID	NUMBER	4		PK	Y	1-9999	1234	
supplierName	VARCHAR	50			Y		"Incessant Inc"	
phone	NUMBER	11			Y	200000000-999999999	9055551212	Assuming North American phone number
address	VARCHAR	100			Y		"Bob"	

TABLE: SUPPLIERSPRODUCTS

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
productID	NUMBER	4		PK/FK	Y	1-99999999	1234	
supplierID	NUMBER	4		PK/FK	Y	1-9999	3	

TABLE: RETAILERS

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
RETAILERID	NUMBER	4		PK	Y	1-99999999	1234	
ADDRESS	VARCHAR	100			Y		"1804 99th St, Grand prairie"	
phone	NUMBER	11			Y	2000000000-9999999999	9055551212	Assuming North American phone number

TABLE: INVENTORY

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
RETAILERID	NUMBER	4		PK/FK	Y	1-99999999	1234	
productID	NUMBER	8		PK/FK	Y	10000000-99999999	12345678	
NUMOFPRODUCTS	NUMBER	11			Y	0-9999999999	10	

TABLE: Employees

Column	Data Type	Size, Precision	Default	PK/FK	Required	Range	Sample Data	Notes
EmployeeID	NUMBER	4		PK	Y	1-9999	1234	
RETAILERID	NUMBER	4		FK	Y	1-99999999	1234	The retailer where the employee works
firstName	VARCHAR	25			Y		"Bob"	
lastName	VARCHAR	25			Y		"McKenzie"	

jobTitle	VARCHAR	25			y		"Manager"	
address		100			Y		123 Maple Street Toronto, ON M1A 2B3	
email	VARCHAR	35			Y		Johnsmith 22@gmail. com	
phone	NUMBER	11			Y	200000000 0- 999999999 9	905555121 2	Assuming North American phone number

Milestone 3 (Final) Submission

Changes made:

The relationships between tables were altered to consider all possibilities.

Incorrect relations were fixed. For example, the Suppliers Table included the foreign key ProductID. Which is incorrect design as the relationship between the Suppliers table and the Products table is many to many. Therefore, this design was fixed using a bridge table.

The address of the customers was made optional as it is not strictly necessary.

The type of phone attribute in the tables which had it was changed to be a number from a varchar to ease storage. The formatting can be dealt with by the client software.

The length of address was increased to 100 to accommodate longer addresses.

Only noticeable design change made was that the orders table was modified to include the foreign key for the retailers table to identify which retailer the products were bought from.

No other major changes to design were made as the design correct by the ms2 submission.