

Killian's Greeting Cards Database Project

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For

CIS131 Relational Database Programming I

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A. Purpose of Database

This is a retail database for a small greeting card store, Killian's Greeting Cards. This small, single-store, single-owner company requires a database to keep track of sales, products, and employee information.

B. Importance of Chosen Entities

Even though this company has only one store, the store entity was created so that the company could expand to more stores in the future. There are entities for sale, product, employee, hours, and vendor because this is the information that the company wants to track. The manager entity allows for stores to have multiple managers, or assistant managers. The sale_line entity was created so that sales could include more than one product and a product could be sold more than once. The product_vendor entity allows for products to come from multiple vendors and for vendors to provide multiple products. The inventory entity was created so that quantities of products could be tracked for multiple stores.

C. Entity Attributes

The Title attribute of the manager entity delineates which employees are a lead and assistant manager. Other employees don't have titles and are all categorized as regular staff. Both Salary in the employee entity and HoursWorked in the hours entity were created for wage calculations. The QuantityOnHand attribute in the inventory entity and the ProdMinOnHand attribute in the product entity account for the current stock in the store and allows for reordering when stock levels become too low. The RetailPrice attribute in the product entity and the WholesalePrice attribute in the product_vendor entity help to differentiate the store's costs and profit margins.

D. Description of Limitations

The following are the business rules that establish entities, relationships, and constraints within this database:

- A company owns and operates many stores.
- A store is owned and operated by one company.
- A store employs many employees.
- An employee works in only one store.
- A store is managed by up to 4 managers, and has only one lead manager.
- A manager manages only one store.
- A store makes many sales.
- Each sale is made at only one store.
- A sale lists many products.
- Products can be listed on many sales.
- A store stocks many inventory items.
- Inventory items exist in only one store.
- An inventory item lists only one product.
- Products can be listed on many inventory items.
- Products are available from many vendors.
- Vendors supply many products.
- Employees clock many hours.
- Hours are clocked by only one employee.
- Prices can not be negative.
- Quantities purchased can not be negative.
- Inventory quantities can not be negative
- Orders are made when the quantity on hand falls below product minimums.
- Each product has its own minimum quantity.
- Managers are paid by salary.
- Regular employees are paid by the hour.

E. Size of Database

Based on the information that the company wants to track, the initial size of the database should be over 1600 rows.

F. Projected Growth

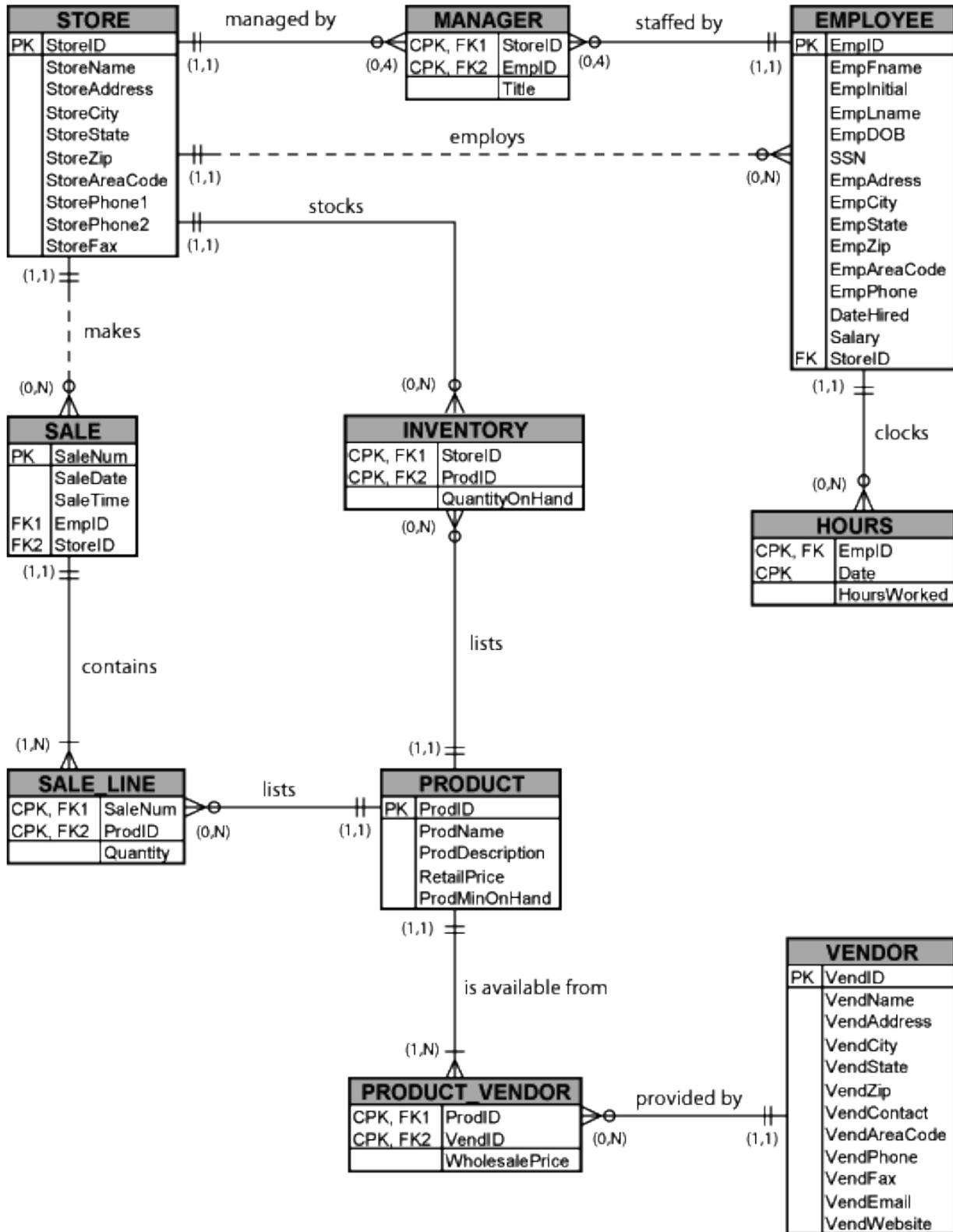
Currently the company is only one store with 5 employees, including one lead manager and one assistant manager. The company is expected to open a new store within a year, and have open 5 stores within 10 years. Projected store size allows for 10 employees per store.

G. Other Items

The following are the domain specifications this database will use.

Domain Name	Data Type	Size	Physical Description
ID	Numeric	8	Identifying number for store, employee, vendor, or product
Name	Text	30	First, middle initial, or last name for store, employee, vendor, or product
Address	Text	35	House or building number, street name, and apartment number (if needed)
City	Text	30	City name
State	Text	2	2-letter abbreviation for state
Zip	Numeric	10	5-digit zip code and 4-digit street identifier using format 99999-9999
Area Code	Numeric	3	Phone number area code using format 999
Phone Number	Numeric	8	Phone number using format 999-9999
Title	Text	30	Manager's title name
SSN	Numeric	9	Social Security Number of employee
Date	Numeric	11	Date using format DD-MMM-YYYY
Currency	Numeric	9,2	Price for salary, sales, or product using format 9,999,999.99
Sale Number	Numeric	8	Identifying number for a sale
Time	Numeric	8	Time using format 00:00:00
Quantity	Numeric	3	Aggregate count of products or hours
Description	Text	255	Descriptive text of an item
Email	Text	50	Email address using format abc.xyz@company.com
Website	Text	50	Web page URL using format http://www.companyname.com

Complete Entity Relationship Diagram.



Dependency Diagrams.

