Grocery Enterprise Management System

Scope of database:

A grocery enterprise wants to keep a record of branches, employees, products, registered customers and vendors. This project will focus on all aspects of the grocery enterprise. A database is designed to keep and secure the sales records. It helps the employee and the manager to easily manipulate the transactions and manage the customers. Customers should be able to access product details with ease, whereas, the staff should be able to access product details and customer details. The manager should be able to access the branch details, employee details and vendor details. Details of guest customers will not be recorded. We are not looking into account details. Database requirements for the same are given below.

Description/Requirements:

- The enterprise has different stores at different locations.
- Each store has a unique store ID, and address.
- Employees have unique employee ID, full name, DOB, designation, salary details, shift timings, date of hiring, Aadhar no., salary status.
- Each employee will have an attendance record with date and attendance status.
- Each store has a number of products available. Products have a product ID, name, brand, and discount details. Brand of a product can be nil.
- The products available in the store are categorized into 6 categories. Each category has its own unique category ID and category name.
- Each product has its own method of pricing.
- Some of the product categories are:
    - Fruits & Vegetables (pricing method: cost per kg)
    - Dairy & Eggs (pricing method: cost per unit/packet)
    - Cooking Essentials (pricing method: marked price)
    - Stationary Products & Office Materials (pricing method: marked price)
    - Cosmetics & Household Essentials (pricing method: marked price)
    - Confectionaries and Cool Drinks (pricing method: marked price)
- There are vendors providing products to the enterprise. Each vendor has name, vendor ID, contact number, and address.
- Each vendor will have delivery details with respect to a store, such as delivered date of products, arrival date of products, amount to be paid, and payment status. Each delivery detail will have one product.
- Each vendor has his/her own quantity measuring method and pricing methods.
    - Fruits & Vegetables (measure: kg, pricing method: cost/kg)

- Dairy & Eggs (measure: units or packets, pricing method: cost per unit/packet)
- Cooking Essentials (measure: cartons, pricing method: cost/carton)
- Stationary Products & Office Materials (measure: cartons, pricing method: cost/carton)
- Cosmetics & Household Essentials (measure: cartons, pricing method: cost/carton)
- Confectionaries and Cool Drinks (measure: cartons, pricing method: cost/carton)

- Each transaction will have a transaction ID, date of transaction, amount paid, and the mode of payment used. Each transaction can have any no. of products, and each product can be bought in any no. of transaction. Each customer can have any no. of transactions.
- The enterprise has some registered customers. Each customer has a name, contact number, address, special discounts, and a unique customer ID. Each customer can register with only one contact no.
- Every location has at least one store. No two locations can have the same store.
- Each store can have any number of employees, but no employee can work in more than one store.
- Each store can have products under different categories. Categories of all products are available at every store.
- Every employee need not work under a product category. Such employees have designation of manager, stock clerks, baggers, cashiers, janitors, security, supervisors, and maintenance. Each store is managed by one manager and a single manager cannot manage two stores.
- The arrival date of a particular product can be blank. The arrival date is updated based on the stock details and expiry dates of the products.
- Products supplied by vendors are based on the stock detail of the product available at each store.
- Each category can have one or more products. Each product comes under one category.
- For each category of products, we have a supervisor, and each supervisor has a set of employees. No employee can have more than one supervisor, and a supervisor can work under exactly one category. Each category has exactly one supervisor.
- Each product category can have any number of vendors. A vendor can supply more than one product under a category.
- Each customer can purchase zero or more products, and each transaction can have only one customer.

Queries that the database system should be able to answer:

1. Retrieve all the stores located in a particular location.
2. Retrieve the details of employees working in a particular store.
3. Retrieve the list of all the products less in stock or out of stock, under a particular category, from a particular store.
4. List of employees who have not received their salary.
5. Retrieve the list of supervisors, and employees under each supervisor.
6. List of employees working in the evening shift, from a particular location.
7. Retrieve the list of vendors supplying products, under category “xyz”.

8. Retrieve the list of stores for which a particular vendor supplies.
9. Retrieve the list of customers who have transactions more than Rs. X.
10. Retrieve the transaction details of a particular customer in the past 15 days.
11. Retrieve the sales of a particular product for a given week.
12. Retrieve the location with maximum sales of a particular product.
13. Products that are pending to be delivered by a particular vendor.
14. Retrieve the list of all employees under a designation “abc”.
15. Retrieve the list of all products available under a particular category.
16. Retrieve the income generated by online payment and cash separately.
17. Retrieve products with a discount less than 10%.
18. List the product details with the maximum price at each category.
19. Retrieve the number of days absent by an employee in a month.
20. Arrival date of a particular product to a particular store.
21. List of vendors supplying to a store.
22. List of managers managing the stores under a particular location.
23. Retrieve customers with most transactions by store.
24. Retrieve most purchased brand of a particular product.
25. Find the total salary to be paid to all employees store-wise.
26. Total amount to be paid to each vendor.
27. Count the vendors supplying products on a particular arrival date.
28. Count the products within 10 days prior the expiry date store-wise.
29. Name the store with minimum customer flow.
30. Name the store with minimum revenue.
31. List the details of employees whose salary is more than their supervisors.
32. Name the vendors who supply for all stores.