Supermarket

Team members:

1. Yousef Azam
2. Abdallah Khaled
3. Amr Ahmed Mohamed
4. Mohamed Gamal
5. Sheri Sayed Ali
6. Yomna Ahmed Hamdy
7. Menna Mohamed Ewais
8. Yomna Ahmed Shappan
9. Hend Abdelzaher
10. Yasmeen Ali

**Entities**

1. Customers
2. Employees
3. Departments
4. Products
5. Branches
6. Stocks
7. Promotions
8. Suppliers
9. Delivery
10. Payments

**Attributes**

* **Customers:**

1. Customer ID: A unique identifier for each customer, essential for tracking individual customer behavior, preferences, and transactions.  
  
2. Name: Helps in personalizing interactions with customers, making them feel valued and fostering a positive relationship.  
  
3. Contact information: Enables communication with customers for promotional offers, updates, and resolving issues, enhancing customer service and satisfaction.  
  
4. Address: Necessary for delivery services, targeted marketing based on location, and understanding regional preferences.  
  
5. Loyalty program status: Indicates the level of engagement and loyalty of a customer, influencing marketing strategies and promotions aimed at retaining loyal customers.  
  
6. Purchase history: Provides insights into buying patterns, favorite products, and frequency of visits, facilitating personalized recommendations and targeted marketing campaigns.  
  
7. Payment preferences: Helps streamline checkout processes and tailor payment options based on customer preferences, improving convenience and satisfaction.  
  
8. Membership status: Indicates participation in loyalty programs or membership clubs, guiding incentives and rewards to encourage repeat business.  
  
9. Age or date of birth: Allows segmentation of customers by age groups for targeted marketing and promotions, considering age-specific preferences and buying behaviors.  
  
10. Gender: Can be used for demographic analysis and targeted marketing, although it's important to handle this attribute with sensitivity and respect privacy concerns.  
  
11. Shopping preferences: Insights into preferred departments, product categories, and brands aid in inventory management, assortment planning, and personalized marketing efforts.  
  
12. Feedback or reviews: Valuable for understanding customer satisfaction levels, identifying areas for improvement, and fostering a customer-centric approach to business operations.

* **Employees:**

1. F-Name
2. L-Name
3. Number
4. Address
5. Age
6. Id
7. Salary
8. Marital status
9. Work hours
10. Qualifications
11. Performance ratings

* **Departments:**

1. Department ID: This attribute uniquely identifies each department. It’s essential for database management, ensuring each department can be uniquely identified and referenced in other tables.
2. Department Name: This attribute stores the name of the department. It’s crucial for human understanding and communication, allowing users to easily identify and refer to different departments.
3. Department Head: This attribute specifies the person in charge of the department. It’s important for organizational structure and decision-making processes.
4. Department Location: This attribute indicates the physical location of the department, such as a building or office number. It’s useful for logistical purposes and resource allocation.
5. Department Budget: This attribute represents the financial resources allocated to the department. It’s vital for financial planning, monitoring, and decision-making within the organization.
6. Department Description: This attribute provides a brief description or summary of the department’s responsibilities and functions. It helps users understand the purpose and role of the department within the organization.
7. Department Contact Information: This attribute includes contact details such as phone numbers or email addresses for the department. It facilitates communication and coordination between departments and with external parties.
8. Department Creation Date: This attribute records the date when the department was established or created. It’s useful for historical tracking and auditing purposes.
9. Department Status: This attribute indicates the current status of the department, such as active, inactive, or under review. It helps in managing departmental changes and organizational restructuring.
10. Department Parent/Child Relationship: This attribute establishes hierarchical relationships between departments, such as parent departments and their subordinate units. It’s important for organizational structure and reporting lines.

* **Products:**

1. Product ID: A unique identifier for each product.
2. Product Name: The name or description of the product.
3. Category: The category or department to which the product belongs (e.g., fruits, vegetables, dairy, meat).
4. Brand: The brand or manufacturer of the product.
5. Price: The price of the product.
6. Quantity: The quantity available in stock.
7. Supplier ID: The identifier of the supplier providing the product.
8. Expiry Date: The date when the product expires or becomes unfit for sale.
9. Unit of Measure: The unit of measurement for the product (e.g., kilograms, liters, units).
10. Weight: The weight of the product (applicable for products sold by weight).
11. Shelf Life: The duration for which the product remains suitable for consumption after purchase.
12. Country of Origin: The country where the product was produced or manufactured.
13. Barcode: The barcode associated with the product for scanning during checkout.
14. Description: Additional information or description about the product.
15. Nutritional Information: Information about the nutritional content of the product.
16. Allergen Information: Information about any allergens present in the product.
17. Organic/Certification: Indication if the product is organic or certified by any standard.
18. Promotions: Indication of any ongoing promotions or discounts applicable to the product.
19. Image URL: URL pointing to an image of the product for display purposes in the system.
20. Reorder Point: The minimum quantity of the product at which it should be reordered.
21. Stock\_id:for knowing the place where it be saved
22. Branch\_id:for knowing where it will be sold

* **Branches:**

1. Branch ID: A unique identifier for each branch.  
   2. Branch Name: The name or label of the branch (e.g., "Downtown Branch," "Westside Branch").  
   3. Location: The physical address or geographical coordinates of the branch.  
   4. Contact Information: Attributes such as phone number, email address, or website URL for communication.  
   5. Manager ID: A reference to the manager responsible for overseeing the branch.  
   6. Opening Hours: The operating hours for the branch (e.g., opening and closing times).  
   7. Inventory: Information related to the products available at the branch.  
   8. Sales Performance: Metrics like total sales, revenue, and customer footfall specific to the branch.  
   9. Staff Count: The number of employees working at the branch.  
   10. Facilities: Any additional facilities provided by the branch (e.g., parking, restrooms).

* **Stocks:**

1. **Revenue growth**: Look for companies that demonstrate consistent or growing revenue over time. This indicates that the supermarket chain is attracting customers and potentially gaining market share.
2. **Profit Margins**: Analyze the company's profit margins to understand its efficiency in managing costs and generating profits. Higher profit margins suggest better operational efficiency.
3. Same-Store Sales Growth: Same-store sales growth measures the increase in sales at stores that have been open for at least a year. Positive same-store sales growth is a sign of customer loyalty and effective management.
4. Market Share: Assess the supermarket's market share relative to its competitors. A company with a significant market share may have a competitive advantage and be better positioned to withstand competition.
5. Online Presence and E-commerce Growth: In today's digital age, an increasing number of consumers are shopping online. Evaluate the company's online presence, e-commerce strategy, and growth in online sales.
6. Dividend Yield and Payout Ratio: Some supermarket stocks may offer dividends to investors. Evaluate the dividend yield and payout ratio to assess the company's dividend sustainability and potential income for investors.
7. Regulatory Environment: Consider regulatory factors that may impact supermarket operations, such as food safety regulation
8. Brand Strength and Customer Loyalty: Strong supermarket brands tend to have loyal customer bases. Assess customer satisfaction ratings, brand recognition, and loyalty programs to gauge the strength of the company's brand.

* **Suppliers:**

Supplier ID :Essential for referencing and managing supplier data uniquely.  
  
  
Supplier Name :  referencing and managing supplier data uniquely  
  
Contact Person : Identifies the supplier for communication and reference  
  
Contact Number : for communication   
  
Email address : for communication and coordination regarding orders, deliveries, and inquiries.  
  
Lead time : Ensures compliance with quality requirements and regulatory standards.  
  
Product Range : Needed for shipping, logistics, and verification of supplier authenticity.  
  
Payment Terms : Helps in categorizing suppliers and assessing their suitability for various products.  
  
Delivery Terms : Crucial for financial planning and managing cash flow  
  
Payment history : Helps in determining ordering quantities and negotiating terms with the supplier  
  
Minimum order quantity :  Critical for inventory management, demand planning, and avoiding stockouts.  
  
Price List :  Affects inventory management, scheduling, and customer satisfaction  
  
Quality Standards: Essential for cost calculation, pricing strategy, and budgeting.

* **Delivery:**

Delivery ID: A unique identifier for each delivery. This attribute is crucial for tracking and managing deliveries efficiently.  
  
Delivery Date and Time: Indicates when the delivery is scheduled or occurred. This attribute is essential for managing inventory, scheduling staff, and informing customers about delivery times.  
  
Delivery Address: Specifies the location where the delivery is to be made. This attribute is critical for ensuring accurate and timely delivery to the correct destination.  
  
Delivery Items: Lists the items included in the delivery. This attribute is vital for inventory management, stock replenishment, and billing purposes.  
  
Delivery Status: Indicates the current status of the delivery (e.g., pending, in transit, delivered). This attribute is important for tracking the progress of deliveries and providing real-time updates to customers.  
  
Delivery Driver: Specifies the driver responsible for making the delivery. This attribute is crucial for assigning tasks, tracking performance, and ensuring accountability.  
  
Delivery Vehicle: Identifies the vehicle used for transportation during the delivery process. This attribute is important for logistics planning, optimizing routes, and maintaining vehicle records.  
  
Delivery Cost: Specifies the cost associated with the delivery. This attribute is essential for calculating expenses, setting pricing policies, and generating revenue reports.  
  
Delivery Notes: Provides additional instructions or information related to the delivery. This attribute is important for addressing special requests, handling exceptions, and improving customer satisfaction.  
  
Delivery Confirmation: Indicates whether the delivery has been successfully completed and confirmed by the recipient. This attribute is crucial for verifying order fulfillment and resolving any delivery-related issues

* **Payments:**

Method: Helps track how the payment was made (credit card, cash, check, etc.), which is important for reconciliation and financial reporting.  
  
Amount: Essential for recording the exact monetary value of the transaction, aiding in financial analysis, and ensuring accurate accounting.  
  
Payment Status: Indicates the current state of the payment, allowing for monitoring of payment processing and ensuring timely completion.  
  
Transaction ID: Provides a unique identifier for each transaction, facilitating tracking and reference for customer inquiries, refunds, and dispute resolution.  
  
Date and Time: Records when the payment occurred, aiding in auditing, tracking payment trends, and ensuring compliance with payment deadlines.  
  
Billing Address: Necessary for verifying the legitimacy of the payment and ensuring accurate billing information for future correspondence and transactions.  
  
Payment Confirmation Number: Offers an additional reference point for the payment, useful for cross-referencing with other systems, providing to customers for inquiries, and facilitating communication between parties.