UNIVERSITY OF PORTSMOUTH

DATA MANAGEMENT.

COURSEWORK 1: PMM Grocery Supermarket Database

Database Solution for PMM Grocery Supermarket

School of Computing, University of Portsmouth– Portsmouth

Dr Olumuyiwa Matthew

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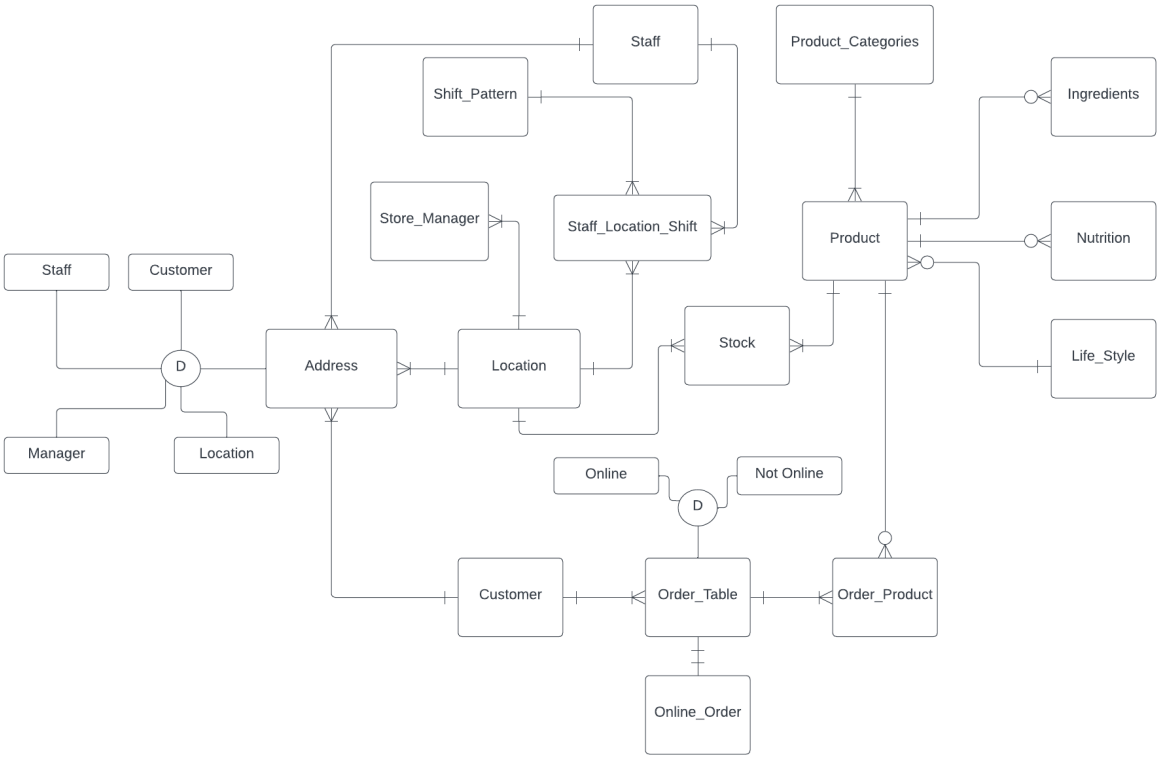
Student ID: UP2225522

Task 1 EERD



Task 2 Rationale and Assumptions

1. The design creates a practical and structured database for PMM Grocery Supermarket, following specific rules (NF1-NF3).
2. The system manages the supermarket's operations, including store locations, staff, and customer orders.
3. The "Online_Order" table is there to differentiate online orders, and it's designed for future growth.
4. It also handles relationships between staff, locations, and shift patterns using the "Staff_Location_Shift" table and between orders and products using the "Order_Product" table.
5. A "Stock" table keeps track of product availability at different locations.
6. An address table is created for managing people and store addresses.
7. The design simplifies customer data and focuses on essential features while excluding complex details.
8. The model does not include fields or tables for tracking product expiration dates. It is assumed that the system does not deal with product expiration information.
9. The model does not include specific tables or details about managing product suppliers. It assumes that supplier management is not within the system's scope.

10. The model assumes a straightforward relationship between locations and a store manager overseeing each location. There is no hierarchy of locations, and each store manager is associated with a single location.
11. Assuming a system calculation of product price*quantity for that order exists. “Order_Product” table only stores that information.

Task 3 Data Dictionary/script

Product					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Product_ID	PK	INT	PK		
Category_ID		INT	FK	Category	
Life_Style_ID		INT	FK	Life_Style	
Product_Name		VARCHAR(30)	NOT NULL		
Price		NUMERIC	>0, NOT NULL		
Size_Volume		NUMERIC			
Country_Of_Origin		VARCHAR(20)			
Storage_Instruction		TEXT			
Manufacturer		VARCHAR(15)			
Allergy_Advice		TEXT			

Product_Category					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Category_ID	PK	INT	PK		
Category_Name		VARCHAR(15)	NOT NULL		

Ingredients					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Product_ID	FK (PK)	INT	PK (Composite Key)	Product	
Ingredient_Name	PK	TEXT	PK (Composite Key)		

Nutrition					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Product_ID	FK (PK)	INT	PK (Composite Key)	Product	
Nutrition	PK	TEXT	PK (Composite Key)		

Life_Style					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Life_Style_ID	PK	INT	PK		
Life_Style_Name		VARCHAR(15)	NOT NULL		

Order_Product					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Order_ID	FK	INT	FK	Order	
Product_ID	FK	INT	FK	Product	
Quantity		INT	>0, NOT NULL		
Total_Price		NUMERIC	>0, NOT NULL		Assuming there already is a system calculation of product price*quantity for that order. This table only stores that information.

Order_Table					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Order_ID	PK	INT	PK		
Customer_ID	FK	INT	FK	Customer	
Order_Date		DATE	NOT NULL		
Order_Status		VARCHAR(10)	NOT NULL		Have various fixed sets of input e.g. Pending, Cancelled, Completed, Refunded and etc.
Address_ID		INT	FK	Address	

Online_Order					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Order_ID		INT	FK	Order	
Online_Order_Flag		BOOLEAN	NOT NULL		1 for online order, 0 for not online order.
Online_Order_Details		TEXT			Any extra online order details mentioned by the customer.

Customer					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Customer_ID	PK	INT	PK		
Customer_First_Name		VARCHAR(30)	NOT NULL		
Customer_Last_Name		VARCHAR(30)	NOT NULL		
Email	AK	VARCHAR(30)	UNIQUE		
Address_ID		INT	FK	Address	
Modify_Date		DATE	NOT NULL		Creation date and latest update e.g. name/email change
Number		VARCHAR(20)			

Location					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Location_ID	PK	INT	PK		
Location_Name		VARCHAR(20)	NOT NULL		
Manager_ID		INT	FK	Store_Manager	
Address_ID		INT	FK	Address	
Head_Office_Flag		BOOLEAN	NOT NULL		1 for head office, 0 for normal stores.

Store_Manager					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Manager_ID	PK	INT	PK		
First_Name		VARCHAR(20)	NOT NULL		
Last_Name		VARCHAR(20)	NOT NULL		
Email	AK	VARCHAR(30)	UNIQUE		
Address_ID		INT	FK	Address	
Number		VARCHAR(20)			
Active		BOOLEAN			

Staff_Location_Shift					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Staff_Location_Shift_ID	PK	INT	PK		
Staff_ID		INT	FK	Staff	
Location_ID		INT	FK	Location	
Shift_Pattern_ID		INT	FK	Shift_Pattern	

Shift_Pattern					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Shift_Pattern_ID	PK	INT	PK		
Pattern_Name		VARCHAR(10)	NOT NULL		Name of shift pattern e.g. Morning, Night, Afternoon and etc.

Staff					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Staff_ID	PK	INT	PK		
First_Name		VARCHAR(20)	NOT NULL		
Last_Name		VARCHAR(20)	NOT NULL		
Email	AK	VARCHAR(30)	UNIQUE		
Address_ID		INT	FK	Address	
Number		VARCHAR(20)			
Active		BOOLEAN			

Address					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Address_ID	PK	INT	PK		
Address_Line_1		VARCHAR(30)	NOT NULL		
Address_Line_2		VARCHAR(30)			
Address_Line_3		VARCHAR(30)			
Address_Line_4		VARCHAR(30)			
City		VARCHAR(30)	NOT NULL		
County		VARCHAR(30)			
Postcode		VARCHAR(10)	NOT NULL		
Address_Type		VARCHAR(10)	NOT NULL		Columns to distinguish addresses eg. Customer, Store, Staff and etc.

Stock					
Attribute name	PK or AK?	Data Type & Size	Domain and constraints	FK reference	Description (where non-obvious)
Stock_ID	PK	INT	PK		
Product_ID		INT	FK	Product	
Location_ID		INT	FK	Location	
Available_Quantity		INT	NOT NULL		Available product quantity of a certain location
Last_Stock_Date		DATE	NOT NULL		The latest stock was coming in.

All table is created with an SQL code in pgAdmin4, an IDE for PostgreSQL.

Task 4: SQL Queries

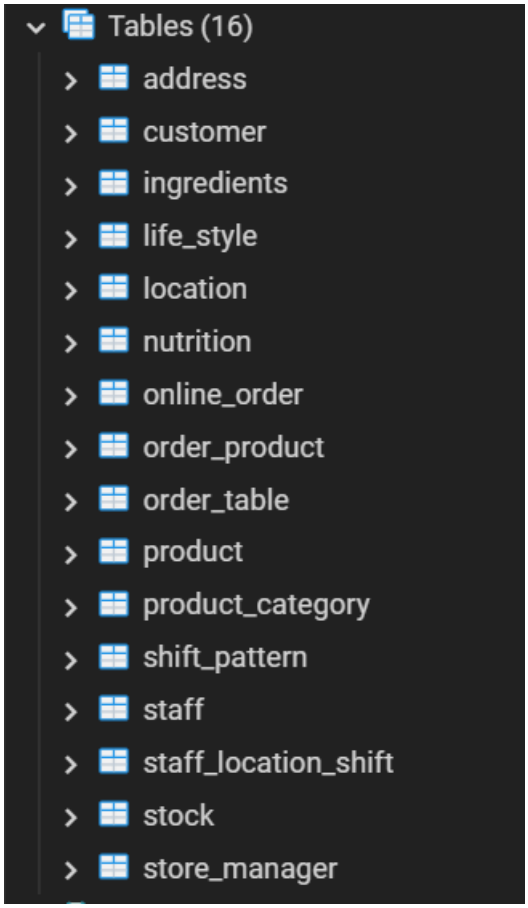


Table creation

Note that after creating the tables, Mockaroo is used to generate and insert statements into all tables (see in appendix).

Table 1: Product_Category

```
CREATE TABLE Product_Category (
    Category_ID INT PRIMARY KEY,
    Category_Name VARCHAR(15) NOT NULL
);
```

Table 2: Life_Style

```
CREATE TABLE Life_Style (
    Life_Style_ID INT PRIMARY KEY,
    Life_Style_Name VARCHAR(15) NOT NULL
);
```

Table 3: Product

```
CREATE TABLE Product (
    Product_ID INT PRIMARY KEY,
    Category_ID INT,
    Life_Style_ID INT,
    Product_Name VARCHAR(30) NOT NULL,
    Price NUMERIC CHECK (Price > 0) NOT NULL,
    Size_Volume NUMERIC,
    Country_Of_Origin VARCHAR(20),
    Storage_Instruction TEXT,
    Manufacturer VARCHAR(15),
    Allergy_Advice TEXT,
    FOREIGN KEY (Category_ID) REFERENCES Product_Category(Category_ID),
    FOREIGN KEY (Life_Style_ID) REFERENCES Life_Style(Life_Style_ID)
);
```

Table 4: Ingredients

```
CREATE TABLE Ingredients (
    Product_ID INT,
    Ingredient_Name TEXT,
    PRIMARY KEY (Product_ID, Ingredient_Name),
    FOREIGN KEY (Product_ID) REFERENCES Product(Product_ID)
);
```

Table 5: Nutrition

```
CREATE TABLE Nutrition (
    Product_ID INT,
    Nutrition TEXT,
    PRIMARY KEY (Product_ID, Nutrition),
    FOREIGN KEY (Product_ID) REFERENCES Product(Product_ID)
);
```

Table 6: Address

```
CREATE TABLE Address (
    Address_ID INT PRIMARY KEY,
    Address_Line_1 VARCHAR(30) NOT NULL,
    Address_Line_2 VARCHAR(30),
    Address_Line_3 VARCHAR(30),
    Address_Line_4 VARCHAR(30),
    City VARCHAR(30) NOT NULL,
    County VARCHAR(30),
    Postcode VARCHAR(10) NOT NULL
    Address_Type VARCHAR(10) NOT NULL
);
```

Table 7: Customer

```
CREATE TABLE Customer (
    Customer_ID INT PRIMARY KEY,
    Customer_First_Name VARCHAR(30) NOT NULL,
    Customer_Last_Name VARCHAR(30) NOT NULL,
    Email VARCHAR(30) UNIQUE,
    Number VARCHAR(20),
    Address_ID INT,
    Modify_Date DATE NOT NULL,
    FOREIGN KEY (Address_ID) REFERENCES Address(Address_ID)
);
```

Table 8: Order_Table

```
CREATE TABLE "Order_Table" (
    Order_ID INT PRIMARY KEY,
    Customer_ID INT,
    Order_Date DATE NOT NULL,
    Order_Status VARCHAR(10) NOT NULL,
    Address_ID INT,
    FOREIGN KEY (Customer_ID) REFERENCES Customer(Customer_ID),
    FOREIGN KEY (Address_ID) REFERENCES Address(Address_ID)
);
```

Table 9: Online_Order

```
CREATE TABLE Online_Order (
    Order_ID INT,
    Online_Order_Flag BOOLEAN NOT NULL,
    Online_Order_Details TEXT,
    FOREIGN KEY (Order_ID) REFERENCES "Order"(Order_ID)
);
```

Table 10: Order_Product

```
CREATE TABLE Order_Product (
    Order_ID INT,
    Product_ID INT,
    Quantity INT CHECK (Quantity > 0) NOT NULL,
    Total_Price NUMERIC CHECK (Total_Price > 0) NOT NULL,
    FOREIGN KEY (Order_ID) REFERENCES "Order"(Order_ID),
    FOREIGN KEY (Product_ID) REFERENCES Product(Product_ID)
);
```

Table 11: Store_Manager

```
CREATE TABLE Store_Manager (
    Manager_ID INT PRIMARY KEY,
    First_Name VARCHAR(20) NOT NULL,
    Last_Name VARCHAR(20) NOT NULL,
    Email VARCHAR(30) UNIQUE,
    Address_ID INT,
    Number VARCHAR(20)  UNIQUE,
    Active BOOLEAN
    FOREIGN KEY (Address_ID) REFERENCES Address(Address_ID)
);
```

Table 12: Location

```
CREATE TABLE Location (
    Location_ID INT PRIMARY KEY,
    Location_Name VARCHAR(20) NOT NULL,
    Manager_ID INT,
    Address_ID INT,
    Head_Office_Flag BOOLEAN NOT NULL,
    FOREIGN KEY (Manager_ID) REFERENCES Store_Manager(Manager_ID),
    FOREIGN KEY (Address_ID) REFERENCES Address(Address_ID)
);
```

Table 13: Shift_Pattern

```
CREATE TABLE Shift_Pattern (
    Shift_Pattern_ID INT PRIMARY KEY,
    Pattern_Name VARCHAR(10) NOT NULL
);
```

Table 14: Staff

```
CREATE TABLE Staff (
    Staff_ID INT PRIMARY KEY,
    First_Name VARCHAR(20) NOT NULL,
    Last_Name VARCHAR(20) NOT NULL,
    Email VARCHAR(30) UNIQUE,
    Address_ID INT,
    Number VARCHAR(20),
    Active BOOLEAN
    FOREIGN KEY (Address_ID) REFERENCES Address(Address_ID)
);
```

Table 15: Staff_Location_Shift

```
CREATE TABLE Staff_Location_Shift (
    Staff_Location_Shift_ID INT PRIMARY KEY,
    Staff_ID INT,
    Location_ID INT,
    Shift_Pattern_ID INT,
    FOREIGN KEY (Staff_ID) REFERENCES Staff(Staff_ID),
    FOREIGN KEY (Location_ID) REFERENCES Location(Location_ID),
    FOREIGN KEY (Shift_Pattern_ID) REFERENCES Shift_Pattern(Shift_Pattern_ID)
);
```

Table 16: Stock

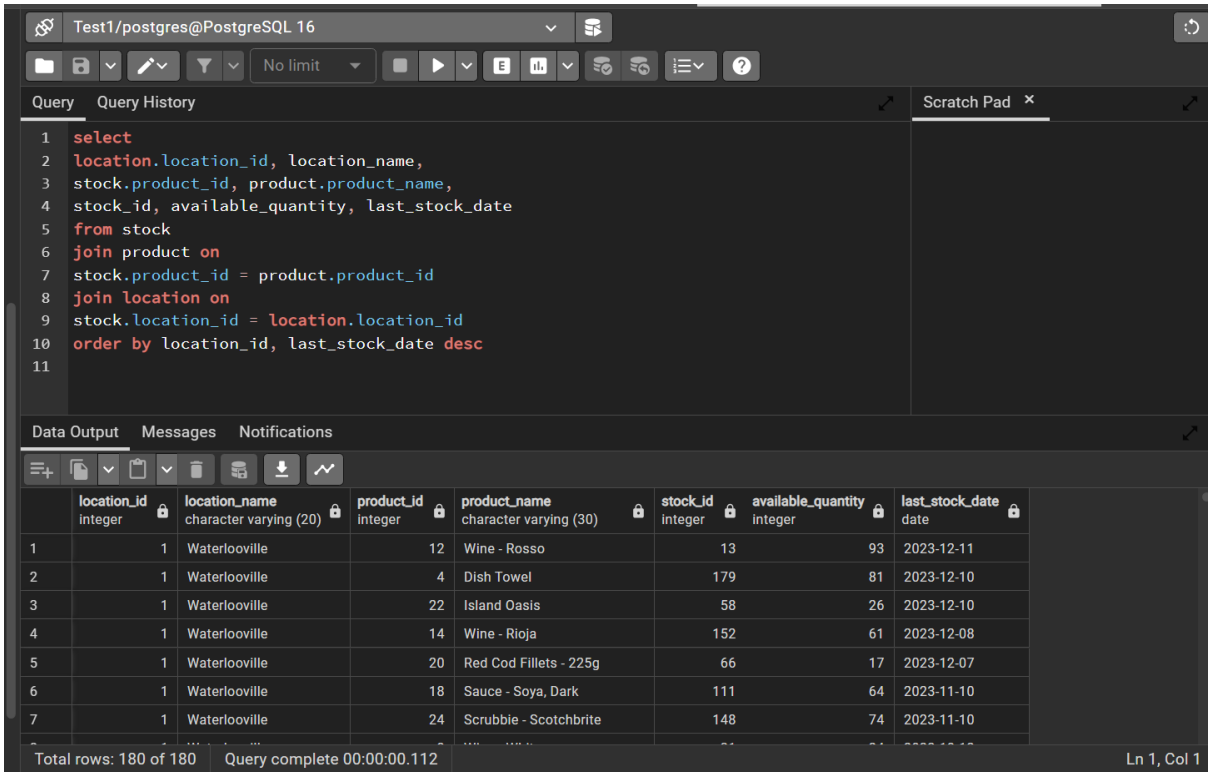
```
CREATE TABLE Stock (
    Stock_ID INT PRIMARY KEY,
    Product_ID INT,
    Location_ID INT,
    Available_Quantity INT NOT NULL,
    Last_Stock_Date DATE NOT NULL,
    FOREIGN KEY (Product_ID) REFERENCES Product(Product_ID),
```

FOREIGN KEY (Location_ID) REFERENCES Location(Location_ID)

);

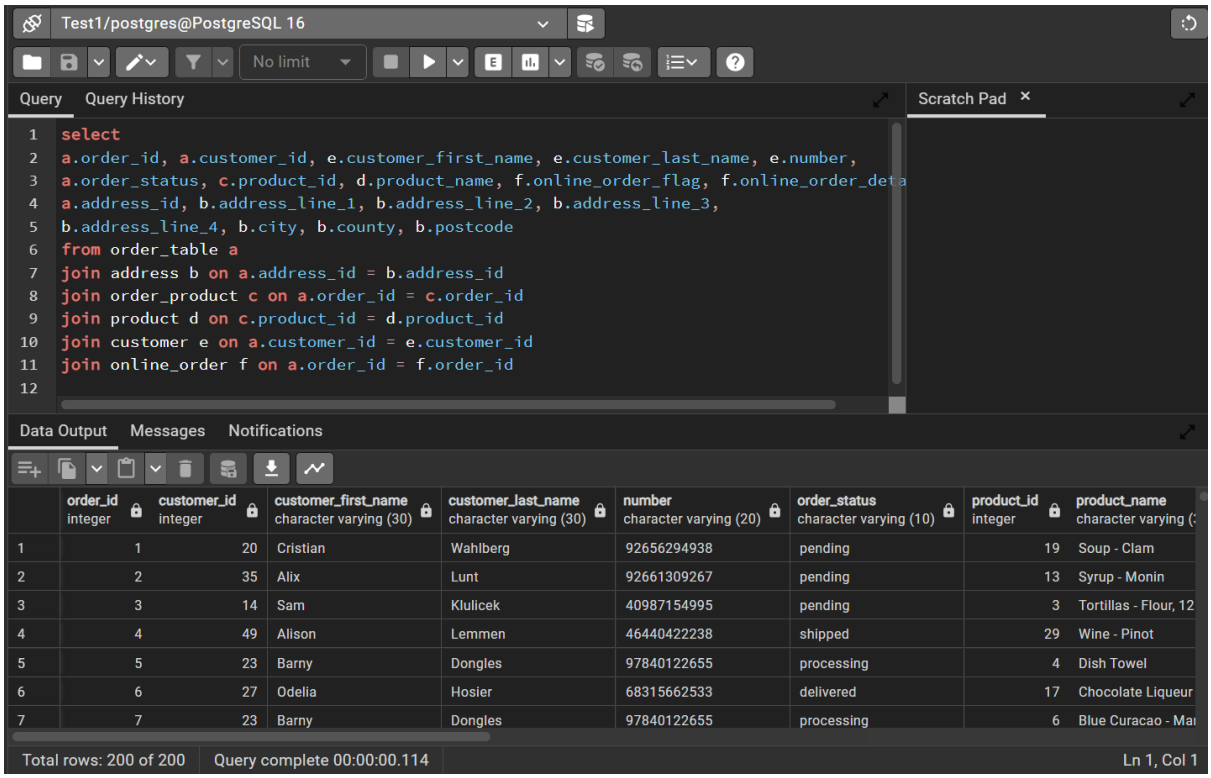
Query 1: Report of product availability and location

The query retrieves the latest stock availability data from the “location” and “stock” tables. Management can use this data for Inventory monitoring and planning.



Query 2: Order record and delivery details

The order record and delivery are retrieved from multiple tables. This shows the full picture of each order's product and delivery details and can be used to gain various insights such as popular product orders and quality control.



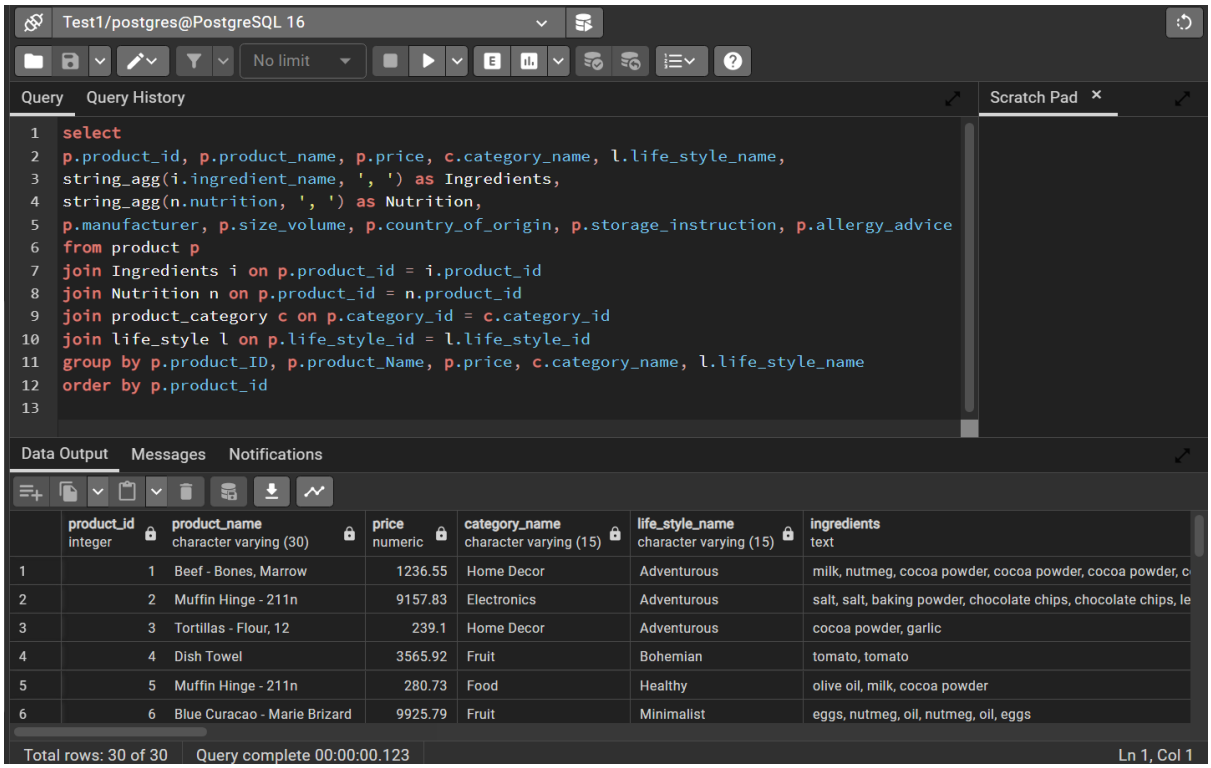
online_order_flag boolean	online_order_details text	address_id integer
true	[null]	52
false	[null]	73
false	[null]	75
false	[null]	61
false	[null]	83
true	[null]	82
true	[null]	57

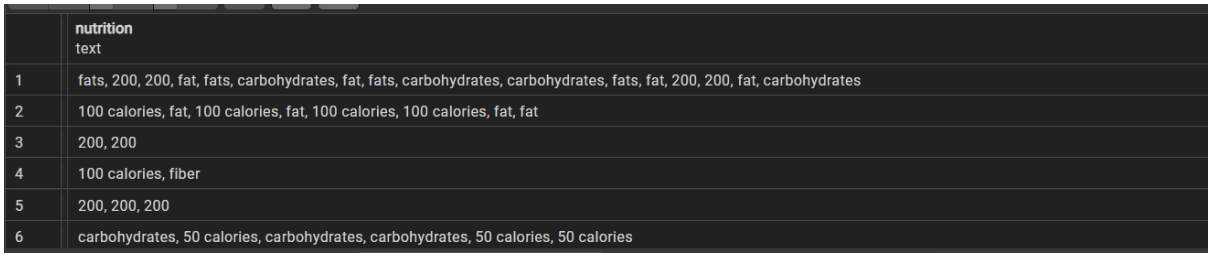
address_id integer	address_line_1 character varying (30)	address_line_2 character varying (30)	address_line_3 character varying (30)	address_line_4 character varying (30)	city character varying (30)	county character varying (30)	postcode character va
52	987 Pine Blvd	Houston	Apartment 1	null	Birmingham	Norfolk	DBR 9CD
73	789 Oak Ln		Penthouse	null	Sheffield	Essex	UR7 5BO
75	123 Main St	Phoenix	Floor 5	Dallas	Glasgow	West Sussex	Z17 3XB
61	789 Oak Ln	123 Main St	Suite 302	null	Sheffield	South Yorkshire	FHR 6VZ
83	Flat 1	123 Main St	Basement	null	Manchester	East Sussex	UV7L 2RH
82	123 Main St	Phoenix	null	null	Birmingham	Suffolk	A78 1XI
57	321 Maple Rd	New York	Unit B	San Jose	Liverpool	Derbyshire	TR 5DA

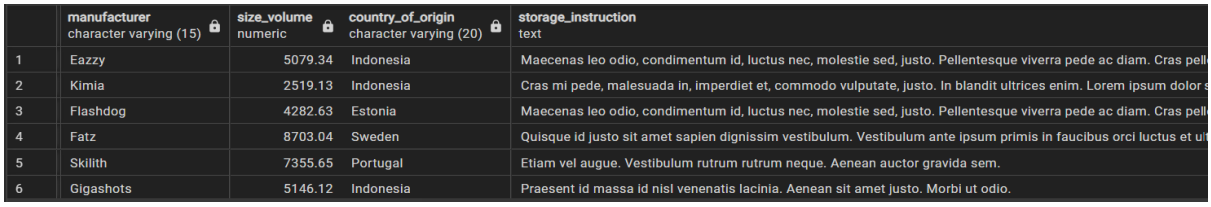
Note that all images display the first 7 query results.

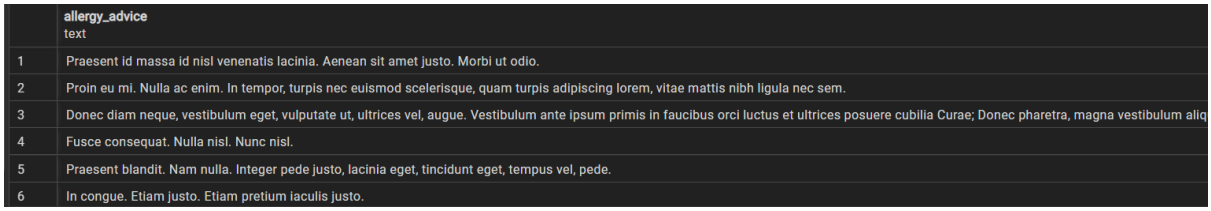
Query 3: All products with details and prices

The full product details are retrieved from this query. This can help assist the store worker to store the product correctly and helps management in pricing strategy. It can also help customers in making decisions on buying based on the price, ingredients, allergy advice and nutrition.









Note that all images display the first 6 query results.

Appendix

The following data was inserted in respective tables and these data were generated using https://mockaroo.com

Note that to limit the length; only samples of the whole insert are selected here.

1)

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (1, 'Toddy', 'McGeorge', 'tmcgeorge0@hhs.gov', 23, '83205208707', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (2, 'Gayle', 'Crosbie', 'gcrosbie1@weebly.com', 24, '53755629313', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (3, 'Germain', 'Gerler', 'ggerler2@hugedomains.com', 30, '02644079077', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (4, 'Collin', 'Measen', 'cmeasen3@reuters.com', 30, '86979732542', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (5, 'Vasili', 'Kench', 'vkench4@php.net', 29, '91687161405', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (6, 'Barty', 'Shelly', 'bshelly5@last.fm', 30, '95989944679', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (7, 'Willey', 'McCromley', 'wmccromley6@home.pl', 25, '20487951767', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (8, 'Nettle', 'Charville', 'ncharville7@loc.gov', 25, '26801395055', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (9, 'Genevra', 'Meugens', 'gmeugens8@creativecommons.org', 31, '88478372995', 'TRUE');

insert into Store_Manager (Manager_ID, First_Name, Last_Name, Email, Address_ID, Number, Active) values (10, 'Rey', 'Gale', 'rgale9@google.it', 25, '11414029327', 'TRUE');

2)

```
insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (1, 25, 5, 100, '11/12/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (2, 22, 5, 95, '04/12/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (3, 9, 1, 45, '10/08/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (4, 30, 3, 99, '12/10/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (5, 22, 3, 47, '12/06/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (6, 5, 5, 51, '08/06/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (7, 28, 3, 63, '12/06/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (8, 2, 4, 56, '11/06/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (9, 6, 4, 13, '10/06/2023');

insert into Stock (Stock_ID, Product_ID, Location_ID, Available_Quantity,
Last_Stock_Date) values (10, 24, 5, 14, '04/11/2023');
```

3)

```
insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID,
Shift_Pattern_ID) values (1, 17, 2, 3);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID,
Shift_Pattern_ID) values (2, 15, 3, 3);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID,
Shift_Pattern_ID) values (3, 9, 5, 4);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID,
Shift_Pattern_ID) values (4, 8, 5, 1);
```

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (5, 14, 5, 3);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (6, 9, 2, 5);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (7, 18, 2, 1);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (8, 8, 4, 3);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (9, 1, 1, 5);

insert into Staff_Location_Shift (Staff_Location_Shift_ID, Staff_ID, Location_ID, Shift_Pattern_ID) values (10, 4, 6, 5);

4)

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (1, 'Jo', 'Schimpke', 'jschimpke0@macromedia.com', '48705435183', 15);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (2, 'Gerard', 'Prynne', 'gprynne1@buzzfeed.com', '12725645333', 4);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (3, 'Ari', 'Rathbone', 'arathbone2@behance.net', '63761730461', 16);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (4, 'Cherie', 'Ivermee', 'civermee3@nasa.gov', '95975044005', 1);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (5, 'Waneta', 'Karppi', 'wkarppi4@studiopress.com', '07177107753', 10);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (6, 'Emlyn', 'Carn', 'ecarn5@oakley.com', '33468224051', 14);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (7, 'Jocelin', 'Claridge', 'jclaridge6@gravatar.com', '23459635800', 14);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (8, 'Patti', 'Sponton', 'psponton7@ucla.edu', '12704736173', 8);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (9, 'Bertine', 'Merfin', 'bmerfin8@hugedomains.com', '19612899756', 1);

insert into Staff (Staff_ID, First_Name, Last_Name, Email, Number, Address_ID) values (10, 'Carmel', 'Shadrack', 'cshadrack9@alibaba.com', '99170479120', 18);

5)

insert into Shift_Pattern (Shift_Pattern_ID, Pattern_Name) values (1, 'Day Shift');

insert into Shift_Pattern (Shift_Pattern_ID, Pattern_Name) values (2, 'Night Shift');

insert into Shift_Pattern (Shift_Pattern_ID, Pattern_Name) values (3, 'Rotating Shift');

insert into Shift_Pattern (Shift_Pattern_ID, Pattern_Name) values (4, 'Split Shift');

insert into Shift_Pattern (Shift_Pattern_ID, Pattern_Name) values (5, 'Flexitime');

6)

insert into Product_Category (Category_ID, Category_Name) values (1, 'Beauty');

insert into Product_Category (Category_ID, Category_Name) values (2, 'Electronics');

insert into Product_Category (Category_ID, Category_Name) values (3, 'Vegetables');

insert into Product_Category (Category_ID, Category_Name) values (4, 'Fruit');

insert into Product_Category (Category_ID, Category_Name) values (5, 'Toys');

insert into Product_Category (Category_ID, Category_Name) values (6, 'Home Decor');

insert into Product_Category (Category_ID, Category_Name) values (7, 'Toys');

insert into Product_Category (Category_ID, Category_Name) values (8, 'Electronics');

insert into Product_Category (Category_ID, Category_Name) values (9, 'Food');

insert into Product_Category (Category_ID, Category_Name) values (10, 'Clothing');

7)

insert into Product (Product_ID, Category_ID, Life_Style_ID, Product_Name, Price, Size_Volume, Country_Of_Origin, Storage_Instruction, Manufacturer, Allergy_Advice) values (1, 6, 8, 'Beef - Bones, Marrow', 1236.55, 5079.34, 'Indonesia', 'Maecenas leo odio, condimentum id, luctus nec, molestie sed, justo. Pellentesque viverra pede ac diam. Cras pellentesque volutpat dui.', 'Eazzy', 'Praesent id massa id nisl venenatis lacinia. Aenean sit amet justo. Morbi ut odio.');

insert into Product (Product_ID, Category_ID, Life_Style_ID, Product_Name, Price, Size_Volume, Country_Of_Origin, Storage_Instruction, Manufacturer, Allergy_Advice) values (2, 8, 1, 'Muffin Hinge - 211n', 9157.83, 2519.13, 'Indonesia', 'Cras mi pede, malesuada in, imperdiet et, commodo vulputate, justo. In blandit ultrices enim. Lorem ipsum dolor sit amet, consectetuer adipiscing elit.', 'Kimia', 'Proin eu mi. Nulla ac enim. In tempor, turpis nec euismod scelerisque, quam turpis adipiscing lorem, vitae mattis nibh ligula nec sem.');

insert into Product (Product_ID, Category_ID, Life_Style_ID, Product_Name, Price, Size_Volume, Country_Of_Origin, Storage_Instruction, Manufacturer, Allergy_Advice) values (3, 6, 2, 'Tortillas - Flour, 12', 239.1, 4282.63, 'Estonia', 'Maecenas leo odio,

condimentum id, luctus nec, molestie sed, justo. Pellentesque viverra pede ac diam. Cras pellentesque volutpat dui.', 'Flashdog', 'Donec diam neque, vestibulum eget, vulputate ut, ultrices vel, augue. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec pharetra, magna vestibulum aliquet ultrices, erat tortor sollicitudin mi, sit amet lobortis sapien sapien non mi. Integer ac neque.');

insert into Product (Product_ID, Category_ID, Life_Style_ID, Product_Name, Price, Size_Volume, Country_Of_Origin, Storage_Instruction, Manufacturer, Allergy_Advice) values (4, 4, 6, 'Dish Towel', 3565.92, 8703.04, 'Sweden', 'Quisque id justo sit amet sapien dignissim vestibulum. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Nulla dapibus dolor vel est. Donec odio justo, sollicitudin ut, suscipit a, feugiat et, eros.', 'Fatz', 'Fusce consequat. Nulla nisl. Nunc nisl.');

insert into Product (Product_ID, Category_ID, Life_Style_ID, Product_Name, Price, Size_Volume, Country_Of_Origin, Storage_Instruction, Manufacturer, Allergy_Advice) values (5, 9, 9, 'Muffin Hinge - 211n', 280.73, 7355.65, 'Portugal', 'Etiam vel augue. Vestibulum rutrum rutrum neque. Aenean auctor gravida sem.', 'Skilith', 'Praesent blandit. Nam nulla. Integer pede justo, lacinia eget, tincidunt eget, tempus vel, pede.');

8)

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (1, 20, '12/01/2023', 'pending', 52);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (2, 35, '02/12/2021', 'pending', 73);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (3, 14, '25/08/2021', 'pending', 75);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (4, 49, '23/01/2022', 'shipped', 61);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (5, 23, '16/06/2023', 'processing', 83);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (6, 27, '27/06/2023', 'delivered', 82);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (7, 23, '25/09/2021', 'processing', 57);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (8, 25, '27/10/2022', 'pending', 96);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (9, 40, '01/02/2021', 'shipped', 71);

insert into Order_Table (Order_ID, Customer_ID, Order_Date, Order_Status, Address_ID) values (10, 12, '14/12/2021', 'shipped', 85);

9)

```
insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (73, 24, 2, 78.91);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (75, 1, 20, 64.59);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (31, 19, 19, 78.03);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (42, 13, 2, 73.35);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (85, 22, 3, 13.82);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (98, 9, 7, 90.16);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (100, 11, 8, 69.6);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (61, 27, 3, 77.96);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (66, 18, 13, 88.81);

insert into Order_Product (Order_ID, Product_ID, Quantity, Total_Price) values (39, 27, 3, 94.65);
```

10)

```
insert into Online_Order (Order_ID, Online_Order_Flag) values (1, 'True');

insert into Online_Order (Order_ID, Online_Order_Flag) values (2, 'False');

insert into Online_Order (Order_ID, Online_Order_Flag) values (3, 'False');

insert into Online_Order (Order_ID, Online_Order_Flag) values (4, 'False');

insert into Online_Order (Order_ID, Online_Order_Flag) values (5, 'False');

insert into Online_Order (Order_ID, Online_Order_Flag) values (6, 'True');

insert into Online_Order (Order_ID, Online_Order_Flag) values (7, 'True');

insert into Online_Order (Order_ID, Online_Order_Flag) values (8, 'False');

insert into Online_Order (Order_ID, Online_Order_Flag) values (9, 'True');

insert into Online_Order (Order_ID, Online_Order_Flag) values (10, 'True');
```

11)

```
insert into Nutrition (Product_ID, Nutrition) values (1, '200');
insert into Nutrition (Product_ID, Nutrition) values (2, '100 calories');
insert into Nutrition (Product_ID, Nutrition) values (3, '200');
insert into Nutrition (Product_ID, Nutrition) values (4, '100 calories');
insert into Nutrition (Product_ID, Nutrition) values (5, '200');
insert into Nutrition (Product_ID, Nutrition) values (6, '50 calories');
insert into Nutrition (Product_ID, Nutrition) values (7, '100 calories');
insert into Nutrition (Product_ID, Nutrition) values (8, '100 calories');
insert into Nutrition (Product_ID, Nutrition) values (9, '200');
insert into Nutrition (Product_ID, Nutrition) values (10, '50 calories');
```

12)

```
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (1, 'Waterlooville', 5, 32, 'false');
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (2, 'Fareham', 6, 37, 'false');
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (3, 'Gosport', 1, 36, 'false');
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (4, 'Havant', 4, 35, 'false');
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (5, 'Chichester', 3, 33, 'false');
insert into Location (Location_ID, Location_Name, Manager_ID, Address_ID,
Head_Office_Flag) values (6, 'Portsmouth', 2, 34, 'True');
```

13)

```
insert into Life_Style (Life_Style_ID, Life_Style_Name) values (1, 'Adventurous');
insert into Life_Style (Life_Style_ID, Life_Style_Name) values (2, 'Adventurous');
insert into Life_Style (Life_Style_ID, Life_Style_Name) values (3, 'Tech-savvy');
insert into Life_Style (Life_Style_ID, Life_Style_Name) values (4, 'Minimalist');
insert into Life_Style (Life_Style_ID, Life_Style_Name) values (5, 'Minimalist');
```

insert into Life_Style (Life_Style_ID, Life_Style_Name) values (6, 'Bohemian');

insert into Life_Style (Life_Style_ID, Life_Style_Name) values (7, 'Adventurous');

insert into Life_Style (Life_Style_ID, Life_Style_Name) values (8, 'Adventurous');

insert into Life_Style (Life_Style_ID, Life_Style_Name) values (9, 'Healthy');

insert into Life_Style (Life_Style_ID, Life_Style_Name) values (10, 'Eco-friendly');

14)

insert into Ingredients (Product_ID, Ingredient_Name) values (6, 'eggs');

insert into Ingredients (Product_ID, Ingredient_Name) values (18, 'butter');

insert into Ingredients (Product_ID, Ingredient_Name) values (11, 'milk');

insert into Ingredients (Product_ID, Ingredient_Name) values (19, 'chocolate chips');

insert into Ingredients (Product_ID, Ingredient_Name) values (10, 'eggs');

insert into Ingredients (Product_ID, Ingredient_Name) values (17, 'chocolate chips');

insert into Ingredients (Product_ID, Ingredient_Name) values (26, 'chocolate chips');

insert into Ingredients (Product_ID, Ingredient_Name) values (20, 'sugar');

insert into Ingredients (Product_ID, Ingredient_Name) values (8, 'salt');

insert into Ingredients (Product_ID, Ingredient_Name) values (19, 'cocoa powder');

15)

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (1, 'Didi', 'Meyrick', 'dmeyrick0@plala.or.jp', 70, '31/08/2023', '38803637256');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (2, 'Freida', 'Rebbeck', 'frebbeck1@dagondesign.com', 57, '29/09/2023', '63178558091');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (3, 'Mirabella', 'Ducastel', 'mducastel2@usa.gov', 91, '29/06/2021', '47008238443');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (4, 'Wayne', 'Houseman', 'whouseman3@unicef.org', 80, '18/11/2022', '57033421289');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (5, 'Mady', 'Mirams', 'mmirams4@booking.com', 71, '30/04/2023', '30313941520');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (6, 'Godiva', 'Biernacki', 'gbiernacki5@nytimes.com', 76, '23/11/2022', '84202091778');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (7, 'Lorraine', 'Dugget', 'ldugget6@miitbeian.gov.cn', 91, '15/11/2021', '35047520429');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (8, 'Renault', 'Shallcrass', 'rshallcrass7@army.mil', 92, '08/02/2020', '44448588260');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (9, 'Celeste', 'Hansed', 'chansed8@g.co', 67, '20/12/2021', '76659725731');

insert into Customer (Customer_ID, Customer_First_Name, Customer_Last_Name, Email, Address_ID, Modify_Date, Number) values (10, 'Sauncho', 'Aymes', 'saymes9@telegraph.co.uk', 85, '18/09/2021', '22262790217');

16)

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (1, '789 Oak Ln', 'Phoenix', 'Penthouse', 'null', 'Birmingham', 'Staffordshire', 'W9 9ES', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (2, 'Flat 10', 'Houston', 'Suite 302', 'null', 'Leeds', 'Merseyside', 'XQ6Q 1FH', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (3, '987 Pine Blvd', 'Houston', '', 'null', 'London', 'Bedfordshire', 'YL1E 9AW', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (4, '789 Oak Ln', '123 Main St', 'Room 101', 'Dallas', 'Edinburgh', 'Essex', 'QL3 8QX', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (5, 'Flat 10', 'Chicago', 'Room 101', 'San Jose', 'Bristol', 'Somerset', 'DW0 5JL', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (6, 'Unit 20', 'Phoenix', 'Floor 5', 'null', 'Manchester', 'Staffordshire', 'QF7G 6SD', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (7, '789 Oak Ln', '321 Maple Rd', 'Basement', 'Dallas', 'London', 'Kent', 'LJR 0DT', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (8, '456 Elm Ave', 'Phoenix', '', 'null', 'Edinburgh', 'East Riding of Yorkshire', 'S2D 4GB', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (9, 'Flat 1', '789 Oak Ln', 'Penthouse', 'null', 'Manchester', 'Hampshire', 'VR 4CP', ‘Customer’);

insert into Address (Address_ID, Address_Line_1, Address_Line_2, Address_Line_3, Address_Line_4, City, County, Postcode, Address_Type) values (10, 'Flat 1', '123 Main St', 'Floor 5', 'null', 'Leeds', 'Kent', 'H46 3HX', ‘Customer’);