THE ECLIPSE CAFÉ DATABASE SYSTEM

by Sadeem Alshaia

This system will assist the owner (administrator) by keeping them informed about everything they need to know about their caf , from sales and products to suppliers and employees. It will also help the employees by allowing them to take the customers' orders.

The Eclipse caf Database project aims to store information regarding average cafe activities and resources such as orders, products, quantities, prices, categories, suppliers, phone numbers, ID, addresses and etc.

The database design would provide flexibilities in terms of adding and disabling of a single item and whole categories as well. The database design would also provide an efficient data system in terms of create, update, alter and delete capabilities.

Relationship Between entities

- **Relation between café and supplier**

The cafe has (0,M) suppliers, suppliers have (0,M) café.

- **Relation between café and barista**

The cafe has (1,M) barista, barista has (1,1) café.

- **Relation between café and admin**

The cafe has (1,M) Admin, admin has (1,1) café.

- **Relation between café and cashier**

The cafe has (1,M) Cashiers, cashier has (1,1) café.

- **Relation between supplier and products**

Suppliers supply (1:M) products, products are supplied by (1,M) suppliers.

- **Relation between admin and cashier**

Admin manages (1,M) cashiers, Cashiers managed by (1,M) admins.

- **Relation between admin and barista**

Admin manages (1,M) baristas, baristas managed by (1,M) admins.

- **Relation between cashier and orders**

Cashiers takes (1,M) orders, orders are taken by 1 cashier.

- **Relation between orders and customers**

Customer takes (1,M) orders while order is taken by 1 customer.

- **Relation between customer and bill**

Customer pays (1:M) bills, bills are payed by 1 customer.

- **Relation between order and item**

Order contains (1,M) items, items are contained in (0,M) orders
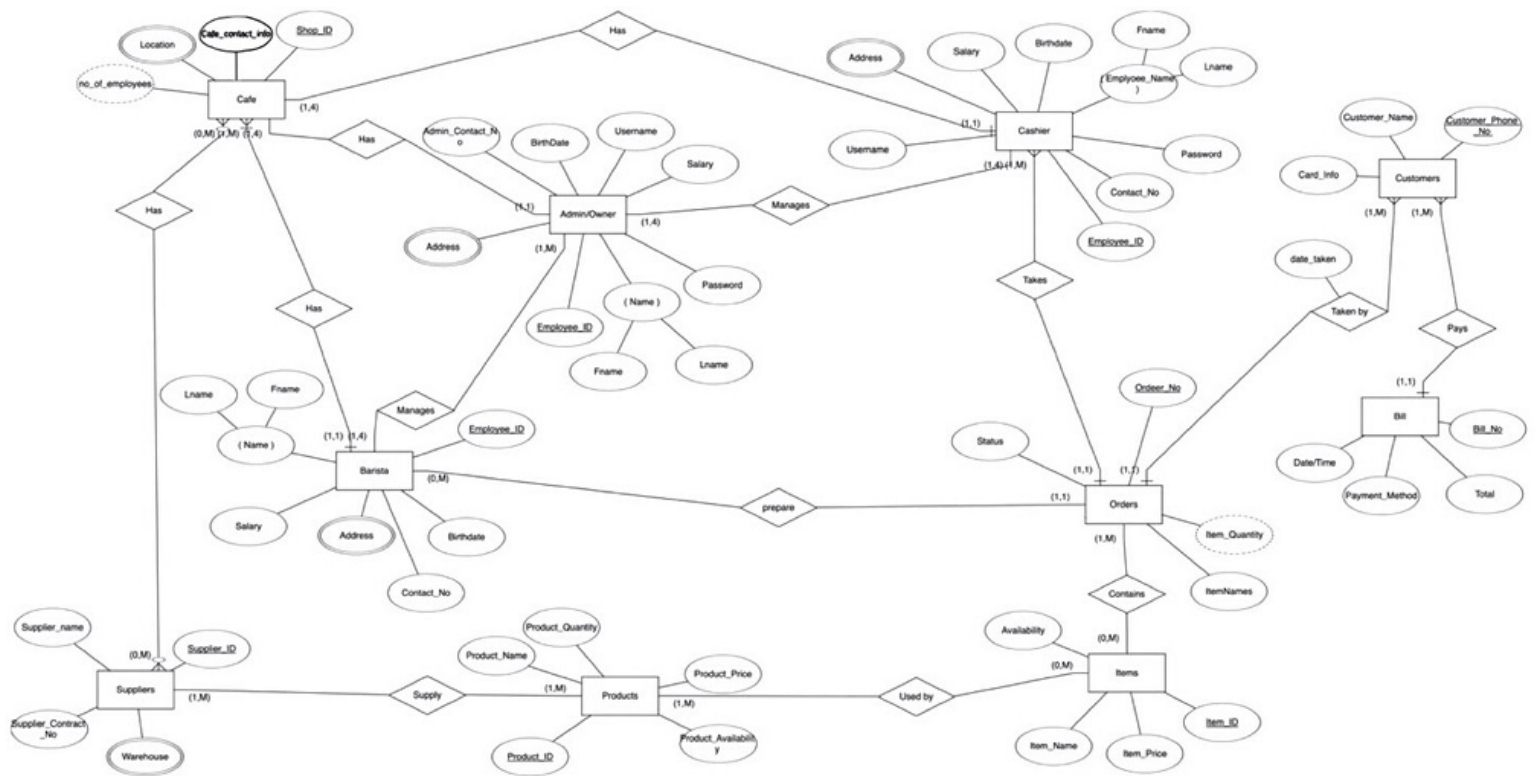
- **Relation between item and products**

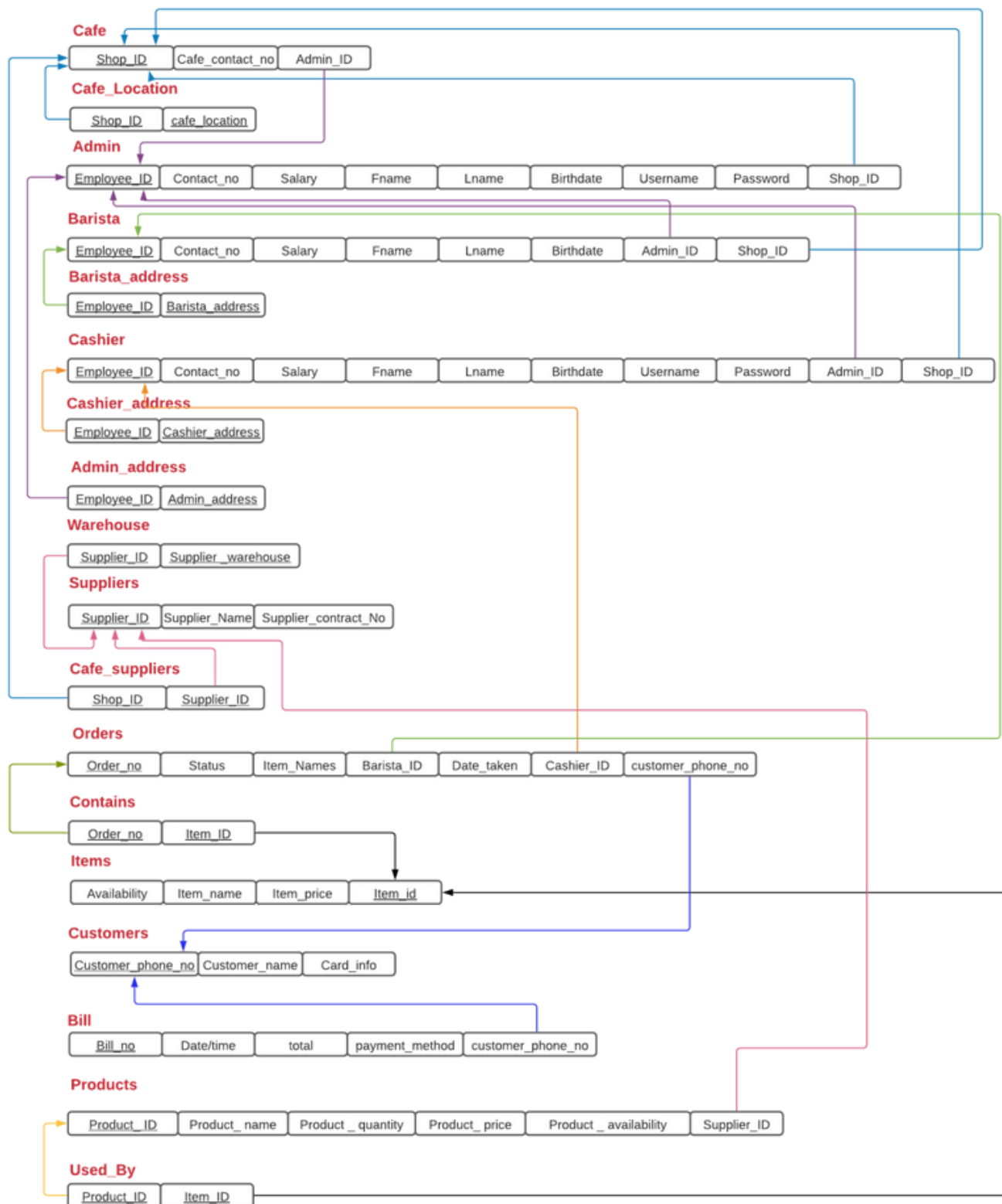Items uses (0,M) product, products used by (1,M) items

- **Relation between barista and order**

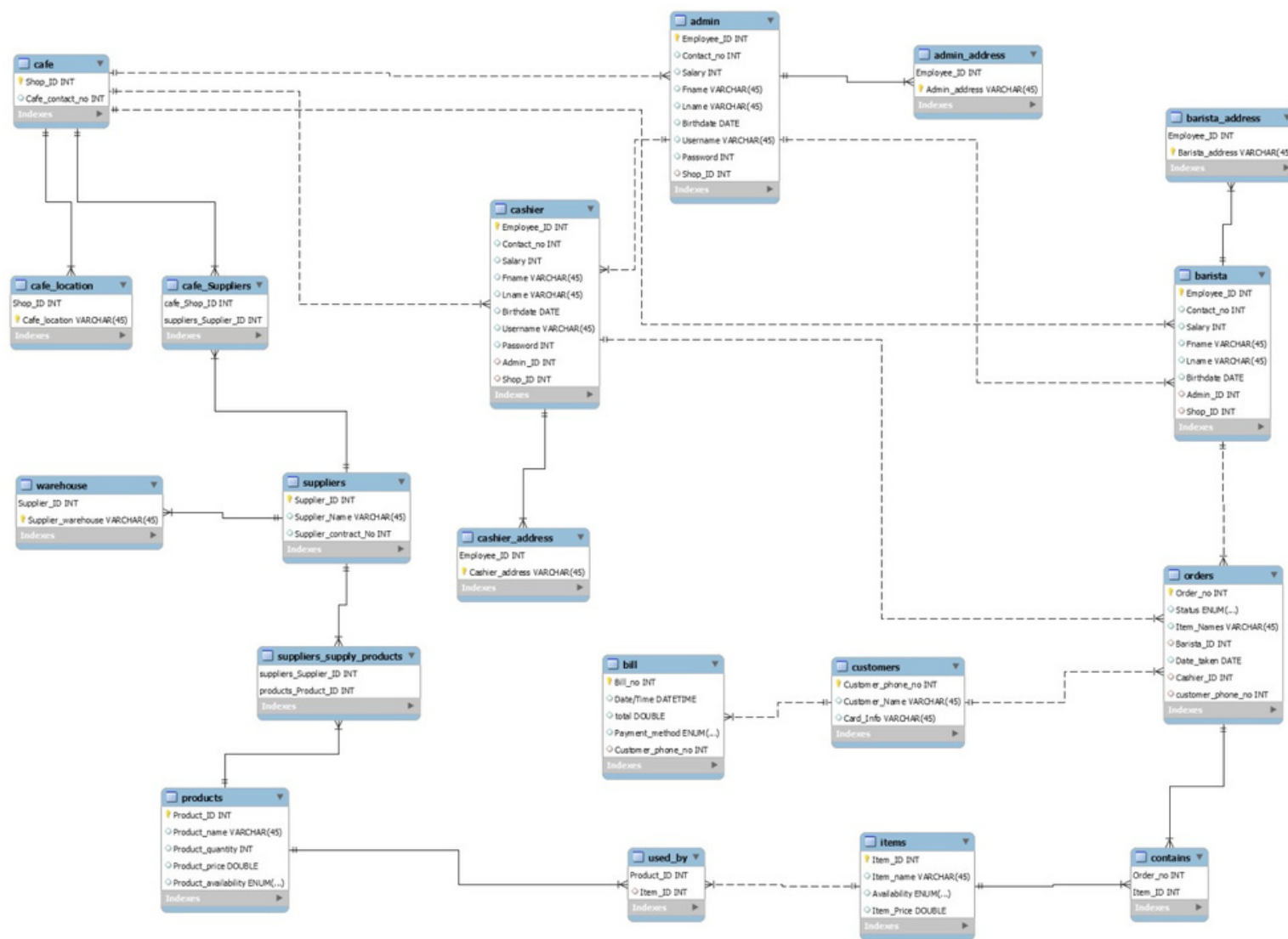Barista prepares (0,M) orders, orders are taken (0,1) by barista.

ER Diagram

Data Schema

Cafe

Shop_ID	Cafe_contact_no	Admin_ID

Cafe_Location

Shop_ID	cafe_location

Admin

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Username	Password	Shop_ID

Barista

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Admin_ID	Shop_ID

Barista_address

Employee_ID	Barista_address

Cashier

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Username	Password	Admin_ID	Shop_ID

Cashier_address

Employee_ID	Cashier_address

Admin_address

Employee_ID	Admin_address

Warehouse

Supplier_ID	Supplier _warehouse

Suppliers

Supplier_ID	Supplier_Name	Supplier_contract_No

Cafe_suppliers

Shop_ID	Supplier_ID

Orders

Order_no	Status	Item_Names	Barista_ID	Date_taken	Cashier_ID	customer_phone_no

Contains

Order_no	Item_ID

Items

Availability	Item_name	Item_price	Item_id

Customers

Customer_phone_no	Customer_name	Card_info

Bill

Bill_no	Date/time	total	payment_method	customer_phone_no

Products

Product_ID	Product_name	Product _quantity	Product_price	Product _availability	Supplier_ID

Used_By

Product_ID	Item_ID

Database Diagram

cafe
- Shop_ID INT
- Cafe_contact_no INT
- Indexes

admin
- Employee_ID INT
- Contact_no INT
- Salary INT
- Fname VARCHAR(45)
- Lname VARCHAR(45)
- Birthdate DATE
- Username VARCHAR(45)
- Password INT
- Shop_ID INT
- Indexes

admin_address
- Employee_ID INT
- Admin_address VARCHAR(45)
- Indexes

barista_address
- Employee_ID INT
- Barista_address VARCHAR(45)
- Indexes

cashier
- Employee_ID INT
- Contact_no INT
- Salary INT
- Fname VARCHAR(45)
- Lname VARCHAR(45)
- Birthdate DATE
- Username VARCHAR(45)
- Password INT
- Admin_ID INT
- Shop_ID INT
- Indexes

barista
- Employee_ID INT
- Contact_no INT
- Salary INT
- Fname VARCHAR(45)
- Lname VARCHAR(45)
- Birthdate DATE
- Admin_ID INT
- Shop_ID INT
- Indexes

cafe_location
- Shop_ID INT
- Cafe_location VARCHAR(45)
- Indexes

cafe_Suppliers
- cafe_Shop_ID INT
- suppliers_Supplier_ID INT
- Indexes

warehouse
- Supplier_ID INT
- Supplier_warehouse VARCHAR(45)
- Indexes

suppliers
- Supplier_ID INT
- Supplier_Name VARCHAR(45)
- Supplier_contract_No INT
- Indexes

cashier_address
- Employee_ID INT
- Cashier_address VARCHAR(45)
- Indexes

orders
- Order_no INT
- Status ENUM(...)
- Item_Names VARCHAR(45)
- Barista_ID INT
- Date_taken DATE
- Cashier_ID INT
- customer_phone_no INT
- Indexes

suppliers_supply_products
- suppliers_Supplier_ID INT
- products_Product_ID INT
- Indexes

bill
- Bill_no INT
- Date/Time DATETIME
- total DOUBLE
- Payment_method ENUM(...)
- Customer_phone_no INT
- Indexes

customers
- Customer_phone_no INT
- Customer_Name VARCHAR(45)
- Card_Info VARCHAR(45)
- Indexes

products
- Product_ID INT
- Product_name VARCHAR(45)
- Product_quantity INT
- Product_price DOUBLE
- Product_availability ENUM(...)
- Indexes

used_by
- Product_ID INT
- Item_ID INT
- Indexes

items
- Item_ID INT
- Item_name VARCHAR(45)
- Availability ENUM(...)
- Item_Price DOUBLE
- Indexes

contains
- Order_no INT
- Item_ID INT
- Indexes

Tables with full specification of data types for all fields, constraint and Keys

(Employee_ID, Address, Username, Contact_No, Salary, Fname, Lname, Password, Birthdate) Data Type:

Employee_ID(INT, PK), Address(VARCHAR), Username(VARCHAR), Contact_No(INT), Salary(DOUBLE), Fname(VARCHAR), Lname(VARCHAR), Password(string), Birthdate(DATE)

2-Customers Entity

(Customer_Phone_No, Customer_name, Card_info)

Data Type:

(Customer_Phone_No (INT, PK) , Customer_Name (VARCHAR), Card_Info(VARCHAR))

3-Bill Entity

(Bill_No, Date/Time, Total, Payment_Method)

Data Type:

Bill_No(INT,PK) , Date/Time(DATETIME) , Total (DOUBLE) , Payment_Method(ENUM('CASH','CREDIT'))

4-Products Entity

(Product_ID, Product_Quantity, Product_Price, Product_Availability , Product_Name)

Data Type:

Product_ID(INT, PK), Product_Quantity(INT), Product_Price(DOUBLE), Product_Availability(ENUM ('available', 'not available')), Product_Name(VARCHAR)

5-Orders Entity

(Order_No ,Status, Item_quantity, Item_Name)

Data Type:

Order_No(INT,PK), Status(ENUM ('Completed', 'In progress', 'Cancelled')), Item_Quantity(INT), Item_Name(VARCHAR)

6-Items Entity

(Item_name, Availability, Item_ID,Item_Price)

Data Type:

Item_ID (INT,PK), Item_Name (VARCHAR), Availability (ENUM('available','not available')), Item_Price (DOUBLE)

7- Suppliers Entity

(Supplier_ID, Supplier_Concact_Co , Supplier_Name, Warehouse)

Data Type:

Supplier_ID (INT, PK), Supplier_Concact_No (VARCHAR), Supplier_Name (VARCHAR), Warehouse(VARCHAR)

(FName, LName, Birthdate, Address, Contact_NO, Salary, Employee_ID)

DataType:

Employee_ID(INT,PK) , FName(VARCHAR), LName(VARCHAR),

Birthdate(DATE),Address(VARCHAR), Contact_NO(INT),Salary(DOUBLE)

9- Café

(Location, Shop_ID, no_of_employee, Café_contact_no)

Data Type:

Shop_ID (INT, PK), No_of_employee (INT), location (VARCHAR), Café_contact_no(INT)

10- Admin

(FName, LName, Birthdate, Salary, Password, Username, Employee_ID, Address,

Admin_contact_no)

Data Type:

Employee_ID(INT,PK), FName(VARCHAR), LName(VARCHAR), Birthdate(DATE),
Salary(INT), Password(INT), Username(VARCHAR), Address(VARCHAR),
Admin_conatct_no(INT)

Fill Tables with 10 records

Admin Table

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Username	Password	Shop_ID
1	566778899	2500	Fahad	Abdullah	1995-05-19	fahad	1143	6
2	555332190	3200	Noura	Khalid	1992-04-20	noura	1992	8
3	508866332	2000	Munira	Adel	1994-02-04	munira	1994	1
4	551225770	1500	Khalid	Mohammed	1991-01-10	khalid	1991	4
5	559720551	3500	Saleh	Ahmed	1997-08-09	saleh	1997	7
6	566773341	1000	Sara	Fahad	1999-04-06	sara	1999	2
7	508853888	3300	Hanouf	Saleh	2000-09-23	hanouf	2000	10
8	555996012	2000	Reem	Abdullah	1996-02-02	reem	1996	5
9	555511988	1700	Rana	Adel	1993-05-12	rana	1993	3
10	505819728	2200	Mona	Nawaf	1991-07-14	mona	1233	9
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Admin_Adress Table

Employee_ID	Admin_address
1	Jeddah
2	Riyadh
3	Dammam
4	Khobar
5	Dhahran
6	Jubail
7	AlAhsa
8	Madinah
9	Dhahran
10	Riyadh
NULL	NULL

Barista Table

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Admin_ID	Shop_ID
1	556788987	4000	Khalid	Abdullah	1995-09-08	3	1
2	555677889	3000	Ali	Mohammed	1992-03-12	6	2
3	511123344	3500	Abdullah	Saad	1997-03-23	9	3
4	534556112	2000	Saud	Fahad	1995-05-05	4	4
5	599811265	2500	Sadeem	Abdullah	1999-12-25	8	5
6	577663221	4000	Jude	Saleh	1992-05-22	1	6
7	533357055	3500	Sulaiman	Issa	1994-08-03	5	7
8	598812295	2200	Maha	Khalid	1999-02-19	2	8
9	566618862	1350	Eman	Ahmed	1992-05-08	10	9
10	588855888	3000	Bader	Abdullah	1990-06-22	7	10
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Barista_Address Table

Employee_ID	Barista_address
1	Dhahran
2	Dammam
3	Riyadh
4	Khobar
5	Jeddah
6	Jubail
7	Riyadh
8	AlAhsa
9	Dhahran
10	Madinah
NULL	NULL

Bill Table

Bill_no	Date/Time	total	Payment_method	Customer_phone_no
1	2021-04-01 10:05:00	21	CREDIT	555837592
2	2021-04-01 10:35:32	21	CREDIT	505717129
3	2021-04-01 10:47:12	12.5	CREDIT	585559321
4	2021-04-01 10:50:31	8.5	CREDIT	555777666
5	2021-04-01 11:06:56	35	CREDIT	555877887
6	2021-04-01 11:15:11	21	CREDIT	504573824
7	2021-04-01 12:05:22	16	CREDIT	505617368
8	2021-04-01 12:15:00	18	CREDIT	582749888
9	2021-04-01 12:16:33	12.5	CREDIT	556635288
10	2021-04-01 12:19:49	35	CREDIT	555847845
NULL	NULL	NULL	NULL	NULL

Café Table

Shop_ID	Cafe_contact_no	Admin_ID
1	556788776	3
2	566778899	6
3	544223355	9
4	588993321	4
5	555511233	8
6	559887554	1
7	508776544	5
8	511223876	2
9	511809923	10
10	505571185	7
NULL	NULL	NULL

Café__Location Table

Shop_ID	Cafe_location
1	Dammam
2	Riyadh
3	Khobar
4	Dhahran
5	Jeddah
6	Jubail
7	Dammam
8	AlAhsa
9	Khobar
10	Riyadh
NULL	NULL

Café_Suppliers Tabel

Shop_ID	Supplier_ID
1	1
2	2
3	3
10	4
4	5
6	6
5	7
7	8
9	9
8	10
NULL	NULL

Cashier Table

Employee_ID	Contact_no	Salary	Fname	Lname	Birthdate	Username	Password	Admin_ID	Shop_ID
1	599923456	1500	Fahad	Saad	1996-05-09	fahad	1234	3	1
2	566623445	2000	Nawaf	Saleh	1995-01-22	nawaf	1223	6	2
3	544778899	2500	Abdullah	Ali	1995-04-12	abdullah	4321	9	3
4	522344887	1000	Naif	Mohammed	1998-09-13	naif	5567	4	4
5	567112344	3000	Mishal	Khalid	1994-02-08	mishal	1425	8	5
6	556788991	1500	Johara	Bader	1997-12-08	johara	1997	1	6
7	533466778	3000	Yara	Khalid	1998-07-18	yara	1998	5	7
8	588853888	2200	Sara	Fahad	1999-04-10	sara	1999	2	8
9	544411255	1200	Lulu	Sulaiman	1993-03-18	lulu	1993	10	9
10	577655412	3300	Nouf	Fahad	1995-09-12	nouf	1995	7	10
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Cashier_Address Table

Employee_ID	Cashier_address
1	Dammam
2	Jeddah
3	Jubail
4	Dhahran
5	Riyadh
6	Khobar
7	AlAhsa
8	Riyadh
9	Jeddah
10	Jubail
NULL	NULL

Contains Table

Order_no	Item_ID
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
NULL	NULL

Customers Table

Customer_phone_no	Customer_Name	Card_Info
504573824	Sara	MasterCard
505617368	Nour	American Express
505717129	Nora	Visa
555777666	Bader	Mada
555837592	Reema	Visa
555847845	Tala	Mastercard
555877887	Fahad	Mada
556635288	Fahad	Mada
582749888	Rand	Visa
585559321	Khalid	MasterCard
NULL	NULL	NULL

Items Table

Item_ID	Item_name	Availability	Item_Price
1	beans	available	1000
2	milk	available	500
3	sugar	available	200
4	sanitizer	available	120
5	condense milk	available	250
6	syrup	not available	500
7	tea	available	800
8	gloves	not available	150
9	masks	available	100
10	tissue	not available	120
NULL	NULL	NULL	NULL

Orders Table

Order_no	Status	Item_Names	Barista_ID	Date_taken	Cashier_ID	customer_phone_no
1	Completed	Latte	2	2021-04-02	1	504573824
2	Completed	Flat White	2	2021-04-02	1	505617368
3	Completed	Americano	1	2021-04-02	1	505717129
4	Completed	Americano	1	2021-04-02	2	555777666
5	Completed	Cake	3	2021-04-02	2	555837592
6	Completed	Water	3	2021-04-02	2	555847845
7	In progress	Americano	1	2021-04-02	3	555877887
8	In progress	Iced latte	2	2021-04-03	3	556635288
9	In progress	Cortado	5	2021-04-03	3	582749888
10	Cancelled	Cortado	5	2021-04-03	1	585559321
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Products Table

Product_ID	Product_name	Product_quanti...	Product_price	Product_availabili...	Supplier_ID
1	Coffee	1000	5	available	1
2	Cups	500	3.5	available	2
3	Syrup	25	4.5	available	3
4	Tea	200	5	available	4
5	Sugar	400	2.5	available	5
6	masks	250	2	available	6
7	gloves	500	2	available	7
8	Tissue	1000	0.25	available	8
9	soap	50	3	available	9
10	sweets	45	5	not available	10
NULL	NULL	NULL	NULL	NULL	NULL

Suppliers Table

Supplier_ID	Supplier_Name	Supplier_contract_...
1	Al Nawras	203
2	Mokaflor	189
3	Arabica	129
4	Camel step	989
5	Starbucks	675
6	Drip	122
7	Roasty	232
8	Robusta	212
9	Beany	356
10	Coffea	778
NULL	NULL	NULL

Used_by Table

Product_ID	Item_ID
8	1
9	2
10	3
7	4
6	5
5	6
3	7
4	8
2	9
1	10
NULL	NULL

Warehouse Table

Supplier_ID	Supplier_warehouse
1	Dammam
2	Jamaica
3	Dubai
4	Riyadh
5	NewYork
6	Khobar
7	Jeddah
8	Sydney
9	Jamaica
10	Manama
NULL	NULL