

SOFE 3700: Data Management Systems



Final Project Phase – II

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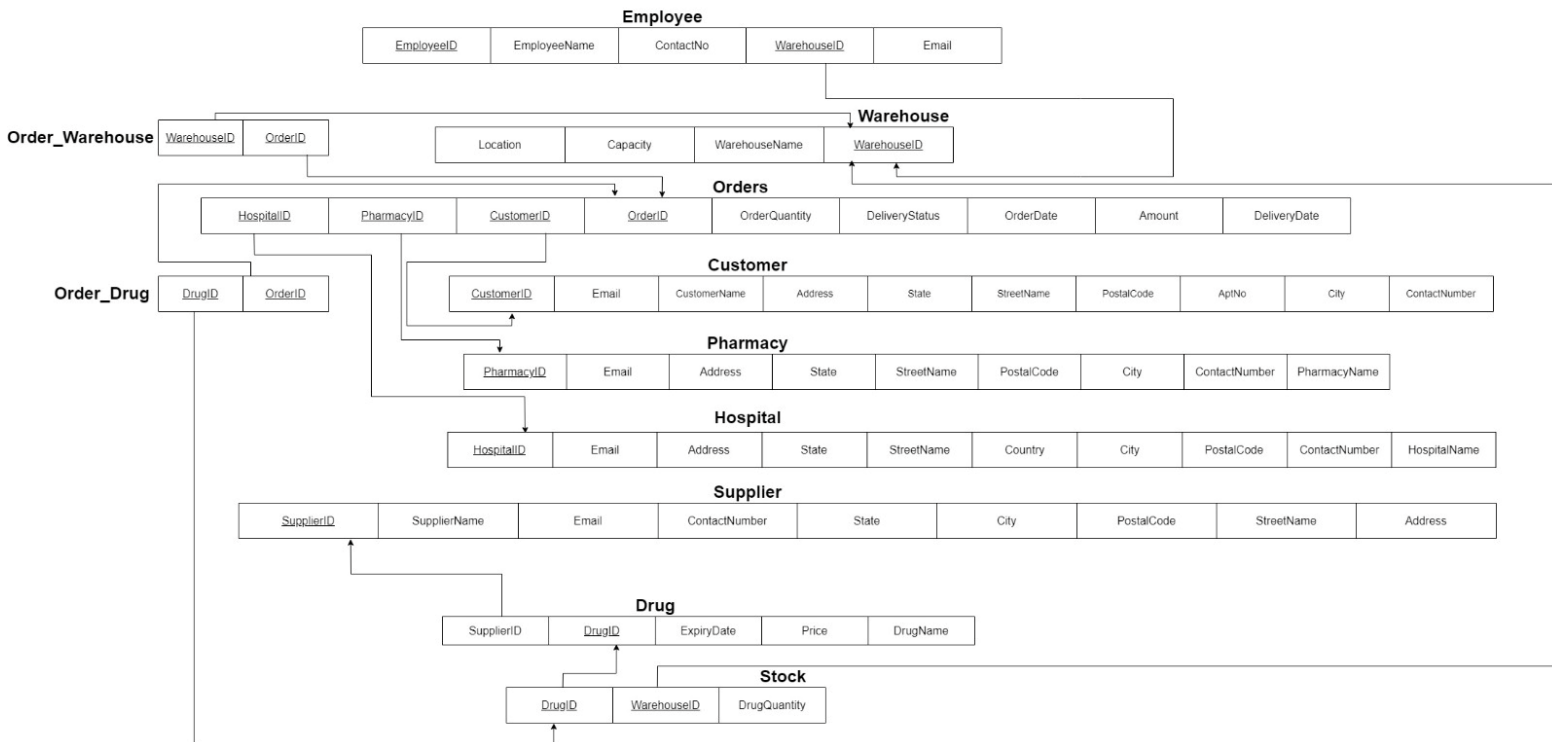
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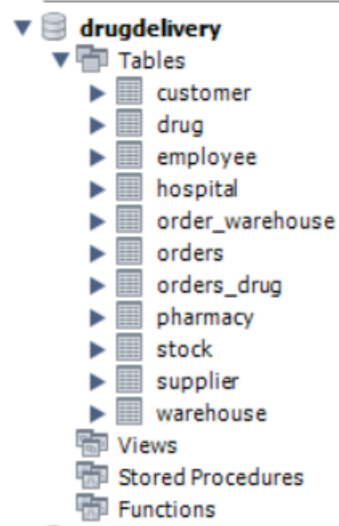
Date: 5/11/2023

PART A













Relational Schema



Screenshot of the created table



Create_Commands x SQL File 3* teams players

 Limit to 1000 rows 

```
1  -- Create Warehouse Table
2  CREATE TABLE Warehouse (
3      WarehouseID INT PRIMARY KEY,
4      WarehouseName VARCHAR(255),
5      Location VARCHAR(255),
6      Capacity INT
7  );
8
9  -- Create Supplier Table
10 CREATE TABLE Supplier (
11     SupplierID INT PRIMARY KEY,
12     SupplierName VARCHAR(255),
13     ContactNumber VARCHAR(20),
14     State VARCHAR(2),
15     Address VARCHAR(255),
16     StreetName VARCHAR(50),
17     PostalCode VARCHAR(6),
18     City VARCHAR(20),
19     Email VARCHAR(255)
20 );
21
22 -- Create Drug Table
23 CREATE TABLE Drug (
24     DrugID INT PRIMARY KEY,
25     SupplierID INT,
26     DrugName VARCHAR(255),
27     Price DECIMAL(10, 2),
28     ExpiryDate DATE,
29     FOREIGN KEY (SupplierID) REFERENCES Supplier(SupplierID)
30 );
```

```
32      -- Create Employee Table
33  ● ○ CREATE TABLE Employee (
34      EmployeeID INT PRIMARY KEY,
35      EmployeeName VARCHAR(255),
36      ContactNo VARCHAR(20),
37      WarehouseID INT,
38      Email VARCHAR(255),
39      FOREIGN KEY (WarehouseID) REFERENCES Warehouse(WarehouseID)
40  );
41
42      -- Create Customer Table
43  ● ○ CREATE TABLE Customer (
44      CustomerID INT PRIMARY KEY,
45      CustomerName VARCHAR(255),
46      ContactNumber VARCHAR(20),
47      Address VARCHAR(255),
48      State VARCHAR(2),
49      StreetName VARCHAR(50),
50      PostalCode VARCHAR(6),
51      AptNo VARCHAR(20),
52      City VARCHAR(255),
53      Email VARCHAR(255)
54  );
```

```
56      -- Create Pharmacy Table
57  ● ○ CREATE TABLE Pharmacy (
58      PharmacyID INT PRIMARY KEY,
59      PharmacyName VARCHAR(255),
60      ContactNumber VARCHAR(20),
61      Address VARCHAR(255),
62      State VARCHAR(2),
63      StreetName VARCHAR(50),
64      PostalCode VARCHAR(6),
65      City VARCHAR(255),
66      Email VARCHAR(255)
67  );
68
69      -- Create Hospital Table
70  ● ○ CREATE TABLE Hospital (
71      HospitalID INT PRIMARY KEY,
72      HospitalName VARCHAR(255),
73      ContactNumber VARCHAR(20),
74      Address VARCHAR(255),
75      State VARCHAR(2),
76      StreetName VARCHAR(50),
77      PostalCode VARCHAR(6),
78      Country VARCHAR(20),
79      City VARCHAR(20),
80      Email VARCHAR(255)
81  );
```

```

83      -- Create Orders Table
84  ● ○ CREATE TABLE Orders (
85      OrderID INT PRIMARY KEY,
86      CustomerID INT,
87      PharmacyID INT,
88      HospitalID INT,
89      OrderDate DATE,
90      DeliveryDate DATE,
91      DeliveryStatus VARCHAR(255),
92      OrderQuantity INT,
93      Amount DECIMAL(12, 2),
94      FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID),
95      FOREIGN KEY (PharmacyID) REFERENCES Pharmacy(PharmacyID),
96      FOREIGN KEY (HospitalID) REFERENCES Hospital(HospitalID)
97  );
98
99      -- Create Order_Warehouse Table
100 ● ○ CREATE TABLE Order_Warehouse (
101      WarehouseID INT,
102      OrderID INT,
103      FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),
104      FOREIGN KEY (WarehouseID) REFERENCES Warehouse(WarehouseID)
105  );
106
107      -- Create Orders_Drug Table
108 ● ○ CREATE TABLE Orders_Drug (
109      DrugID INT,
110      OrderID INT,
111      FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),
112      FOREIGN KEY (DrugID) REFERENCES Drug(DrugID)
113  );
114
115      -- Create Stock Table
116 ● ○ CREATE TABLE Stock (
117      DrugID INT,
118      WarehouseID INT,
119      DrugQuantity INT,
120      PRIMARY KEY (DrugID, WarehouseID),
121      FOREIGN KEY (DrugID) REFERENCES Drug(DrugID),
122      FOREIGN KEY (WarehouseID) REFERENCES Warehouse(WarehouseID)
123  );

```

PART B

Customer

Result Grid

Filter Rows:

Edit:

Export/Import:








Wrap Cell Content:

	CustomerID	CustomerName	ContactNumber	Address	State	StreetName	PostalCode	AptNo	City	Email
▶	10	Eva Brown	+2637443256	1223 Elm St	AB	Elm St	U6R8I8	101	Alberta	eva.brown@gmail.com
	29	Frank Kaka	+8463772563	4956 Oakwood Rd	ON	Oakwood Rd	P0P2V2	102	Toronto	frank@hotmail.com
	38	Grace Billy	+8400998877	79 Pinevalley Ln	NS	Pinevalley Ln	B9N9N9	103	Halifax	grace.billy@gmail.com
	47	Wednesday Adams	+1122554422	482 Birchbox Dr	NL	Birchbox Dr	Y0Y0Q0	104	Youkon	adams@icloud.com
	56	Ivy White	+2159867788	34 Cedarvalley Blvd	QC	Cedarvalley Blvd	L8R2O4	105	Qubbec	whitesrdhs@gmail.com
	65	Jack Mama	+3266772299	693 Maplesyrup Ave	BC	Maplesyrup Ave	S9T1L8	106	jasper	jack.w@hotmail.com
✱	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Warehouse

Result Grid	Filter Rows:	Edit:	Export
WarehouseID	WarehouseName	Location	Capacity
12340	Brampton Warehouse	24 Ocean St	200
12341	Caledon Warehouse	21 Russell Robert Cr	250
12342	Mississauga Warehouse	79 Lundy Lanes Rd	180
12343	Oshawa Warehouse	1272 Westroad Dr	300
12344	Whitby Warehouse	83 Audly Blvd	350
12345	Scarborough Warehouse	6978 Uptown Ave	220
NULL	NULL	NULL	NULL

Supplier

Result Grid			 Filter Rows:	<input type="text"/>	Edit:			Export/Import:			Wrap Cell Content:	
	SupplierID	SupplierName	ContactNumber	State	Address	StreetName	PostalCode	City	Email			
▶	11	Shoppers	+6472345637	ON	152 Maple St	Maple St	V5A2H5	Toronto	Shoppers@gmail.com			
	22	Drug Store	+9972587926	NS	456 Tauton Rd	Tauton Rd	L6R2Y9	Halifax	Drugshopstore@hotmail.com			
	33	East Wood Pharmacy	+4167389922	QC	7839 Netflix Ln	Netflix Ln	A7U8C0	Montreal	EWPharmacy@yahoo.com			
	44	Health Fitness Center	+3652273849	AB	132 Healthdoc Dr	Healthdoc Dr	P9P2S5	Banff	health@icloud.com			
	55	Wellness Center	+9052172765	BC	345 Center Blvd	Center Blvd	Q5R3Q1	Vancouver	wellnesscenter1@gmail.com			
	66	Life Plus Meds	+2179169200	NL	68 Lifeless Ave	Lifeless Ave	G6H4V8	LifeTown	lifeplusmeds@gmail.com			
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL			

Employee

EmployeeID	EmployeeName	ContactNo	WarehouseID	Email
1001	Hetvi Vaghela	+9051234522	12340	hetvi.vaghela@gmail.com
2001	Tanish Singla	+4167812233	12341	Tanish@gmail.com
3001	Akshat Gupta	+7362254545	12342	Akshatgupta@hotmail.com
4001	Avery Thurston	+7218822727	12343	Avery@outlookmail.com
5001	Saumya Pandya	+3652227609	12344	Saumyapanda@gmail.com
6001	Saahir Dhani	+6475651100	12345	Dhanisaahir@hotmail.com
NULL	NULL	NULL	NULL	NULL

Drug

	DrugID	SupplierID	DrugName	Price	ExpiryDate
▶	121	11	Paracetamol	7.20	2029-10-31
	222	22	Ibuprofen	6.75	2025-01-27
	323	33	Aspirin	4.25	2026-06-30
	424	44	Amoxicillin	11.00	2025-12-28
	525	55	Narcotics	19.50	2025-09-28
	626	66	Candelxlin	25.75	2027-04-30
✱	NULL	NULL	NULL	NULL	NULL

Stock

	DrugID	WarehouseID	DrugQuantity
▶	121	12340	190
	222	12341	230
	323	12342	100
	424	12343	120
	525	12344	180
	626	12345	170
✱	NULL	NULL	NULL

Pharmacy

PharmacyID	PharmacyName	ContactNumber	Address	State	StreetName	PostalCode	City	Email
155	MedlineCare Pharmacy	123-556-7890	83 Mamacare St	ON	Mamacare St	A1A1A1	Vagus	medlinecare@gmail.com
255	Wellness Center Pharmacy	234-567-9999	22 Wellness Blvd	PL	Wellness Blvd	B2B2B2	Richill	wellness@hotmail.com
355	Life Saving Pharmacy	345-111-9012	340 Lifeline Rd	QC	Lifeline Rd	C3C3C3	LifelineCity	lifesaving@gmail.com
455	Health Center Hub Pharmacy	647-789-0123	86 MedPlaza	AB	MedPlaza	D4D4D4	Star City	healthcenterhub@gmail.com
555	Central Pharmacy	418-840-1234	50 CureCenter	BC	CureCenter	E5E5E5	Brown Town	Central@yahoo.com
655	First Plus Pharmacy	998-901-2345	67878 First Ave	ON	First Ave	G8G9J9	OMG Town	pharmacyfirst@gmail.com

Hospital

[illegible]

Order

[illegible]

Order_Warehouse

	WarehouseID	OrderID
▶	12340	144
	12341	244
	12342	344
	12343	444
	12344	544
	12345	644

Order_Drug

Result Grid			Filter Rows:
	DrugID	OrderID	
▶	121	144	
	222	244	
	323	344	
	121	144	
	424	444	
	525	544	

PART C

View 1

```
1  -- Join of Order, Customer, Pharmacy and Hospital
2  • CREATE VIEW View1 AS
3  SELECT o.OrderID, c.CustomerName, p.PharmacyName, h.HospitalName
4  FROM Orders o
5  JOIN Customer c ON o.CustomerID = c.CustomerID
6  JOIN Pharmacy p ON o.PharmacyID = p.PharmacyID
7  JOIN Hospital h ON o.HospitalID = h.HospitalID;
8  o
```

	OrderID	CustomerName	PharmacyName	HospitalName
▶	144	Eva Brown	MedlineCare Pharmacy	Brampton Hospital
	244	Frank Kaka	Wellness Center Pharmacy	City Hospital
	344	Grace Billy	Life Saving Pharmacy	Kirkland Hospital
	444	Wednesday Adams	Health Center Hub Pharmacy	Children Hospital
	544	Ivy White	Central Pharmacy	Healthcare Hospital
	644	Jack Mama	First Plus Pharmacy	Civic Treatment Central Hospital

View 2

```
9  -- Orders grouped by customer and pharmacy with total amount
10 • CREATE VIEW View2 AS
11 SELECT o.CustomerID, o.PharmacyID, SUM(o.Amount) AS TotalAmount
12 FROM Orders o
13 GROUP BY o.CustomerID, o.PharmacyID;
```

	CustomerID	PharmacyID	TotalAmount
▶	10	155	580.00
	29	255	750.00
	38	355	250.00
	47	455	690.00
	56	555	450.00
	65	655	1900.00

View 3

```
15 -- Order details with customer information
16 • CREATE VIEW View3 AS
17 SELECT o.OrderID, o.OrderDate, o.DeliveryDate, o.DeliveryStatus, c.CustomerName, c.ContactNumber, c.Address, c.City, c.Email
18 FROM Orders o
19 JOIN Customer c ON o.CustomerID = c.CustomerID;
```

	OrderID	OrderDate	DeliveryDate	DeliveryStatus	CustomerName	ContactNumber	Address	City	Email
▶	144	2023-11-01	2023-11-01	Delivered	Eva Brown	+2637443256	1223 Elm St	Alberta	eva.brown@gmail.com
	244	2023-12-19	2023-12-29	In Transit	Frank Kaka	+8463772563	4956 Oakwood Rd	Toronto	frank@hotmail.com
	344	2023-01-03	2023-01-03	Delivered	Grace Billy	+8400998877	79 Pinevalley Ln	Halifax	grace.billy@gmail.com
	444	2023-06-14	2023-06-14	Delivered	Wednesday Adams	+1122554422	482 Birchbox Dr	Youkon	adams@icloud.com
	544	2024-08-24	2024-08-30	Pending	Ivy White	+2159867788	34 Cedarvalley Blvd	Qubbec	whitesrdhs@gmail.com
	644	2024-05-06	2024-07-27	Pending	Jack Mama	+3266772299	693 Maplesyrup Ave	jasper	jack.w@hotmail.com

View 4

```
21 -- using full join to compare warehouse stock
22 • CREATE VIEW View4 AS
23 SELECT w.WarehouseName, d.DrugName, st1.DrugQuantity AS Quantity1, st2.DrugQuantity AS Quantity2
24 FROM Warehouse w
25 LEFT JOIN Stock st1 ON w.WarehouseID = st1.WarehouseID
26 RIGHT JOIN Stock st2 ON w.WarehouseID = st2.WarehouseID
27 AND st1.DrugID = st2.DrugID
28 LEFT JOIN Drug d ON st1.DrugID = d.DrugID;
```

	WarehouseName	DrugName	Quantity1	Quantity2
▶	Brampton Warehouse	Paracetamol	190	190
	Caledon Warehouse	Ibuprofen	230	230
	Mississauga Warehouse	Aspirin	100	100
	Oshawa Warehouse	Amoxicillin	120	120
	Whitby Warehouse	Narcotics	180	180
	Scarborough Warehouse	Candelxlin	170	170

View 5

```
30 -- Which inventory is available at which warehouse using Union
31 • CREATE VIEW View5 AS
32 SELECT WarehouseID, DrugID
33 FROM Stock
34 WHERE DrugID = 121
35 UNION
36 SELECT WarehouseID, DrugID
37 FROM Stock
38 WHERE DrugID = 222;
```

	WarehouseID	DrugID
▶	12340	121
	12341	222

View 6

```
41 -- Top 5 customers with the most orders
42 • CREATE VIEW View6 AS
43 SELECT c.CustomerName, COUNT(o.OrderID) AS OrderCount
44 FROM Customer c
45 LEFT JOIN Orders o ON c.CustomerID = o.CustomerID
46 GROUP BY c.CustomerName
47 ORDER BY OrderCount DESC
48 LIMIT 5;
```

	CustomerName	OrderCount
▶	Eva Brown	1
	Frank Kaka	1
	Grace Billy	1
	Wednesday Adams	1
	Ivy White	1

View 7

```
50 -- Warehouse capacity utilization
51 • CREATE VIEW View7 AS
52 SELECT w.WarehouseName, SUM(s.DrugQuantity) AS UsedCapacity, w.Capacity
53 FROM Warehouse w
54 LEFT JOIN Stock s ON w.WarehouseID = s.WarehouseID
55 GROUP BY w.WarehouseName, w.Capacity;
```

	WarehouseName	UsedCapacity	Capacity
▶	Brampton Warehouse	190	200
	Caledon Warehouse	230	250
	Mississauga Warehouse	100	180
	Oshawa Warehouse	120	300
	Whitby Warehouse	180	350
	Scarborough Warehouse	170	220

View 8

```
57      -- Upcoming expiry dates for drugs
58  ●   CREATE VIEW View8 AS
59      SELECT d.DrugName, d.ExpiryDate
60      FROM Drug d
61      WHERE d.ExpiryDate > NOW()
62      ORDER BY d.ExpiryDate;
```

	DrugName	ExpiryDate
▶	Ibuprofen	2025-01-27
	Narcotics	2025-09-28
	Amoxicillin	2025-12-28
	Aspirin	2026-06-30
	Candelxlin	2027-04-30
	Paracetamol	2029-10-31

View 9

```
64      -- Total order amount as pharmacy
65  ●   CREATE VIEW View9 AS
66      SELECT p.PharmacyName, SUM(o.Amount) AS TotalAmount
67      FROM Pharmacy p
68      LEFT JOIN Orders o ON p.PharmacyID = o.PharmacyID
69      GROUP BY p.PharmacyName;
--
```

	PharmacyName	TotalAmount
▶	MedlineCare Pharmacy	580.00
	Wellness Center Pharmacy	750.00
	Life Saving Pharmacy	250.00
	Health Center Hub Pharmacy	690.00
	Central Pharmacy	450.00
	First Plus Pharmacy	1900.00

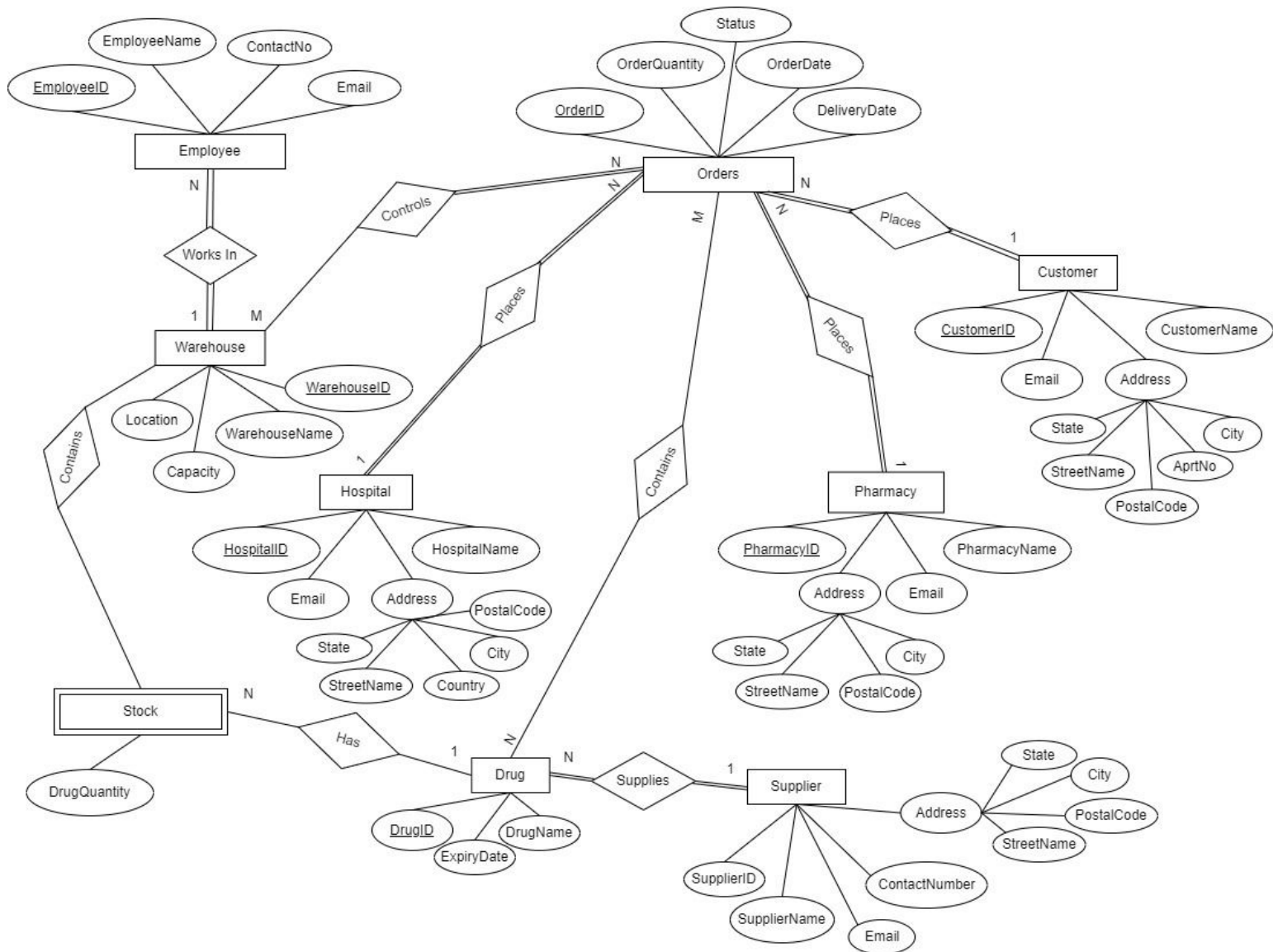
View 10

```
71      -- customers with pending orders
72  ●   CREATE VIEW View10 AS
73      SELECT c.CustomerName, o.OrderDate, o.DeliveryStatus
74      FROM Customer c
75      INNER JOIN Orders o ON c.CustomerID = o.CustomerID
76      WHERE o.DeliveryStatus = 'Pending';
```

	CustomerName	OrderDate	DeliveryStatus
▶	Ivy White	2024-08-24	Pending
	Jack Mama	2024-05-06	Pending

PART D

ER Schema



UML ER Schema

