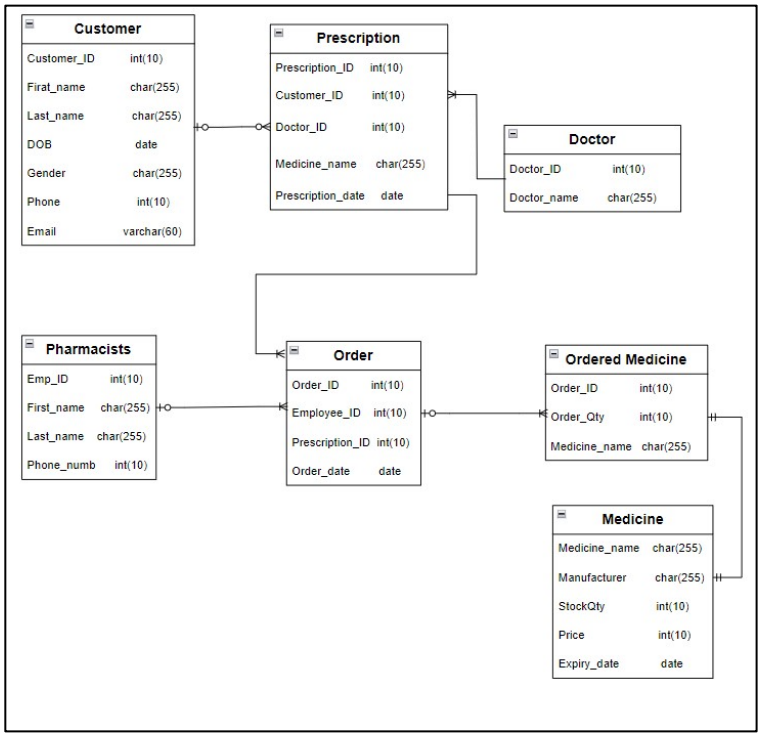
README FILE:

Aim of the Project: The aim of the project is to help enhance the accuracy and efficiency of a pharmaceutical store. A database of available medicines is created for both the customers and Pharmacists to access. Customers can look up for information on the required medicines like the name, diseases it can cure and prices. This system will help Pharmacists to effectively manage the pharmaceutical store and will also have access to the prescriptions given to the customers by the doctors.

Flow of project:

A. Understanding the project and creating ERD and UML Diagrams.

For our project we have created an ERD Diagram as shown below:



B.Creation of Database :

1. We connect to MySQL Workbench and MySQL Server using terminal using the following statement :
   mysql.server.start

```
meghanabs@Meghanas-MacBook-Pro ~ % mysql.server start
Starting MySQL
. SUCCESS!
meghanabs@Meghanas-MacBook-Pro ~ %
```

2. Next, we have to create a schema that we will work on.
   CREATE SCHEMA *schemaname*.

```
1   CREATE SCHEMA `Pharmacy_Management` ;
2
```

C. Creation of Tables:
We have created 7 tables for this projects : Customer, Doctor, ordered_medicines, pharmacists, prescriptions, Orders, medicines

SQL Statements for Creations of Tables :

1. Customer :

```
CREATE TABLE `Customer` (
  `customer_ID` int NOT NULL,
  `first_name` varchar(45) DEFAULT NULL,
  `last_name` varchar(45) DEFAULT NULL,
  `DOB` date DEFAULT NULL,
  `Gender` varchar(2) DEFAULT NULL,
  `phone_number` bigint DEFAULT NULL,
  `Email_ID` varchar(100) DEFAULT NULL,
  PRIMARY KEY (`customer_ID`)
)
```

```
CREATE TABLE `Customer` (
  `customer_ID` int NOT NULL,
  `first_name` varchar(45) DEFAULT NULL,
  `last_name` varchar(45) DEFAULT NULL,
  `DOB` date DEFAULT NULL,
  `Gender` varchar(2) DEFAULT NULL,
  `phone_number` bigint DEFAULT NULL,
  `Email_ID` varchar(100) DEFAULT NULL,
  PRIMARY KEY (`customer_ID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

2. Pharmacists :

```
CREATE TABLE `pharmacists` (
 `Emp_ID` int DEFAULT NULL,
 `First_Name` text,
 `Last_Name` text,
 `Phone_Number` bigint DEFAULT NULL
)
```

```
CREATE TABLE `pharmacists` (
  `Emp_ID` int DEFAULT NULL,
  `First_Name` text,
  `Last_Name` text,
  `Phone_Number` bigint DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

3. Medicine :

```
REATE TABLE `Medicine` (
 `Medicine_Name` varchar(100) NOT NULL,
 `Manufactureres` varchar(100) DEFAULT NULL,
 `Price` double DEFAULT NULL,
 `Stock_Qty` int DEFAULT NULL,
 `Expiry_Date` date DEFAULT NULL,
 PRIMARY KEY (`Medicine_Name`)
)
```

```
CREATE TABLE `Medicine` (
  `Medicine_Name` varchar(100) NOT NULL,
  `Manufactureres` varchar(100) DEFAULT NULL,
  `Price` double DEFAULT NULL,
  `Stock_Qty` int DEFAULT NULL,
  `Expiry_Date` date DEFAULT NULL,
  PRIMARY KEY (`Medicine_Name`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

4. Prescription :

```
CREATE TABLE `Prescription` (
 `customer_ID` int DEFAULT NULL,
 `Prescription_ID` int NOT NULL,
 `Medicine_Name` varchar(50) DEFAULT NULL,
 `Doctor_ID` varchar(45) DEFAULT NULL,
 `Prescription_Date` date DEFAULT NULL,
 PRIMARY KEY (`Prescription_ID`)
)
```

```
CREATE TABLE `Prescription` (
  `customer_ID` int DEFAULT NULL,
  `Prescription_ID` int NOT NULL,
  `Medicine_Name` varchar(50) DEFAULT NULL,
  `Doctor_ID` varchar(45) DEFAULT NULL,
  `Prescription_Date` date DEFAULT NULL,
  PRIMARY KEY (`Prescription_ID`),
  KEY `customer_ID_idx` (`customer_ID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb
```

5. Doctor :

```
CREATE TABLE `Pharmacy_mangement_system`.`Doctor` (
 `Doctor_ID` INT NOT NULL,
 `Doc_Name` VARCHAR(60) NULL,
 PRIMARY KEY (`Doctor_ID`));
```

```
CREATE TABLE `Doctor` (
  `Doctor_ID` int NOT NULL,
  `Doc_Name` varchar(60) DEFAULT NULL,
  PRIMARY KEY (`Doctor_ID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE
```

6. Ordered_medicines :

```
CREATE TABLE `ordered_medicines` (
 `Order_ID` int DEFAULT NULL,
 `Medicine_Name` text,
 `Order_qty` int DEFAULT NULL
)
```

```
1  CREATE TABLE `ordered_medicines` (
2    `Order_ID` int DEFAULT NULL,
3    `Medicine_Name` text,
4    `Order_qty` int DEFAULT NULL
5  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

7. Orders :

```
CREATE TABLE `Orders` (
 `Order_ID` int NOT NULL,
 `Emp_ID` int DEFAULT NULL,
 `Prescription_ID` int DEFAULT NULL,
 `Order_Date` date DEFAULT NULL,
 PRIMARY KEY (`Order_ID`)
)
```

```
CREATE TABLE `Orders` (
  `Order_ID` int NOT NULL,
  `Emp_ID` int DEFAULT NULL,
  `Prescription_ID` int DEFAULT NULL,
  `Order_Date` date DEFAULT NULL,
  PRIMARY KEY (`Order_ID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 C
```

D: Gathering, Munging and inserting data into the database.
- We have gathered data from multiple websites and cleaned the data to fit our database.
-We removed any duplicity in data through Microsoft excel functions as well as SQL.
- We performed data audit and validation on our data to fit our database tables.

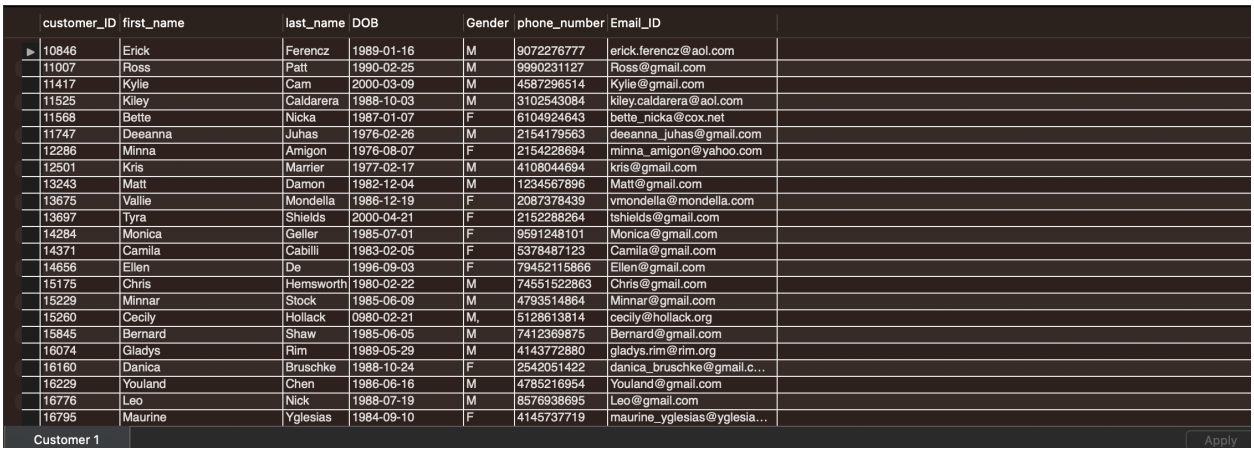
Below are SQL Statements examples to insert Data into our database as well as screenshots of our data fit into our Database Tables :

1. Customer Table :

   SQL Statement

   INSERT INTO `Pharmacy_mangement_system`.`Customer` (`customer_ID`, `first_name`, `last_name`, `DOB`, `Gender`, `phone_number`, `Email_ID`)
   VALUES('23063','Brock','Bolognia','1997-01-06','M','2126175063','bbolognia@yahoo.com');

   Screenshot :



customer_ID	first_name	last_name	DOB	Gender	phone_number	Email_ID
10846	Erick	Ferencz	1989-01-16	M	9072276777	erick.ferencz@aol.com
11007	Ross	Patt	1990-02-25	M	9990231127	Ross@gmail.com
11417	Kylie	Cam	2000-03-09	M	4587296514	Kylie@gmail.com
11525	Kiley	Caldarera	1988-10-03	M	3102543084	kiley.caldarera@aol.com
11568	Bette	Nicka	1987-01-07	F	6104924643	bette_nicka@cox.net
11747	Deeanna	Juhas	1976-02-26	M	2154179563	deeanna_juhas@gmail.com
12286	Minna	Amigon	1976-08-07	F	2154228694	minna_amigon@yahoo.com
12501	Kris	Marrier	1977-02-17	M	4108044694	kris@gmail.com
13243	Matt	Damon	1982-12-04	M	1234567896	Matt@gmail.com
13675	Vallie	Mondella	1986-12-19	F	2087378439	vmondella@mondella.com
13697	Tyra	Shields	2000-04-21	F	2152288264	tshields@gmail.com
14284	Monica	Geller	1985-07-01	F	9591248101	Monica@gmail.com
14371	Camila	Cabilli	1983-02-05	F	5378487123	Camila@gmail.com
14656	Ellen	De	1996-09-03	F	79452115866	Ellen@gmail.com
15175	Chris	Hemsworth	1980-02-22	M	74551522863	Chris@gmail.com
15229	Minnar	Stock	1985-06-09	M	4793514864	Minnar@gmail.com
15260	Cecily	Hollack	0980-02-21	M,	5128613814	cecily@hollack.org
15845	Bernard	Shaw	1985-06-05	M	7412369875	Bernard@gmail.com
16074	Gladys	Rim	1989-05-29	M	4143772880	gladys.rim@rim.org
16160	Danica	Bruschke	1988-10-24	F	2542051422	danica_bruschke@gmail.c…
16229	Youland	Chen	1986-06-16	M	4785216954	Youland@gmail.com
16776	Leo	Nick	1988-07-19	M	8576938695	Leo@gmail.com
16795	Maurine	Yglesias	1984-09-10	F	4145737719	maurine_yglesias@yglesia…

Customer 1 Apply

2. Medicine :

   SQL Statement :

   INSERT INTO `Pharmacy_mangement_system`.`Medicines` (`Medicinesname`, `Manufacturer`, `StockQty`, `Expiry_date`, `Price') VALUES ('Pemazyre','Incyte Biosciences Distribution B.V.','4','2023-01-02','29.00

Screenshot :

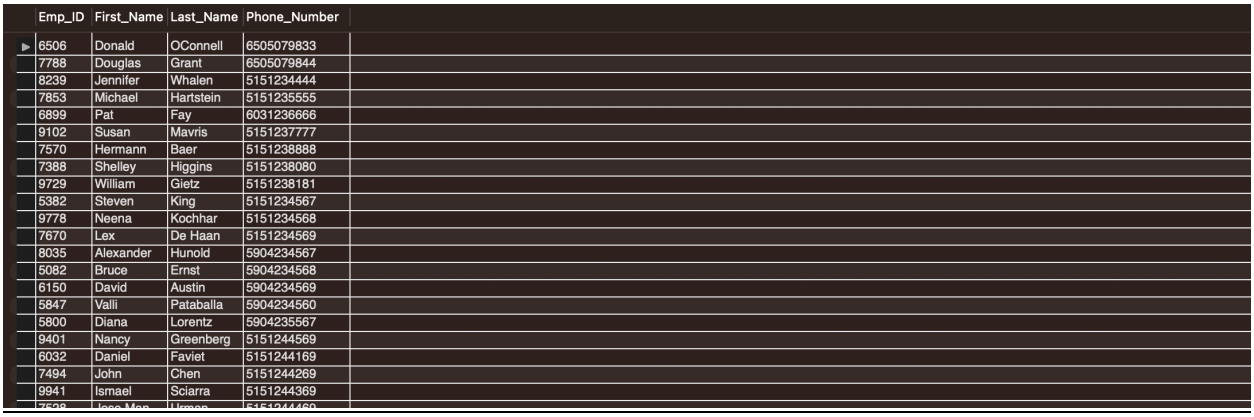
Medicine_Name	Manufactureres	Price	Stock_Qty	Expiry_Date
Adtralza	Sandoz GmbH	55.22	50	2025-02-23
Aubagio	Argenx	10	36	2024-02-23
Biktarvy	Vifor Fresenius Medical Care Renal Pharma Fra...	45.12	12	2025-12-23
Blitzima	H. Lundbeck A/S	40	60	2023-01-23
Byooviz	SUN Pharmaceutical Industries (Europe) B.V.	18	2	2027-02-23
Cevenfacta	Gilead Sciences Ireland UC	33	24	2028-04-23
Comirnaty	Alexion Europe SAS	27	37	2026-02-23
COVID-19 Vaccine (inactivated adjuvanted) Val...	Clovis Oncology Ireland Limited	50	49	2023-06-13
Darunavir Krka	Zentiva, k.s.	38.27	69	2025-02-23
Dexmedetomidine Accord	Accord Healthcare S.L.U.	55.32	5	2023-06-23
Fasturtec	Valneva Austria GmbH	37	10	2027-12-23
Flixabi	Viatris Limited	55	22	2024-08-23
Fuzeon	Dipharma B.V.	53	46	2022-02-24
Genvoya	Eli Lilly Nederland B.V.	29	19	2025-12-23
Ibandronic Acid Teva	Baxalta Innovations GmbH	45.99	8	2022-02-23
Imlygic	Teva B.V.	23.99	2	2023-06-24
Intelence	Moderna Biotech Spain, S.L.	54	29	2025-12-23
Javlor	Substipharm	40	5	2026-02-23
Kaletra	Merck Sharp & Dohme B.V.	13.28	47	2026-12-23
Kevzara	Horizon Therapeutics Ireland DAC	22	1	2025-06-23
Keytruda	Sandoz Pharmaceuticals d.d.	30.12	23	2024-02-23
Kinpeygo	Daiichi Sankyo Europe GmbH	36	21	2022-02-24
Lacosamide Accord	Bristol-Myers Squibb Pharma EEIG	29	2	2024-01-23

3. Pharmacists :

   SQL Statement :

   INSERT INTO `Pharmacy_mangement_system`.`Pharmacists` (`Emp_ID`, `first_name`, `last_name`, `phone_number`) VALUES ('6506','Donald','OConnell','650.507.9833');

   Screenshot :



Emp_ID	First_Name	Last_Name	Phone_Number
6506	Donald	OConnell	6505079833
7788	Douglas	Grant	6505079844
8239	Jennifer	Whalen	5151234444
7853	Michael	Hartstein	5151235555
6899	Pat	Fay	6031236666
9102	Susan	Mavris	5151237777
7570	Hermann	Baer	5151238888
7388	Shelley	Higgins	5151238080
9729	William	Gietz	5151238181
5382	Steven	King	5151234567
9778	Neena	Kochhar	5151234568
7670	Lex	De Haan	5151234569
8035	Alexander	Hunold	5904234567
5082	Bruce	Ernst	5904234568
6150	David	Austin	5904234569
5847	Valli	Pataballa	5904234560
5800	Diana	Lorentz	5904235567
9401	Nancy	Greenberg	5151244569
6032	Daniel	Faviet	5151244169
7494	John	Chen	5151244269
9941	Ismael	Sciarra	5151244369

4. Orders :

   SQL Statement :

   INSERT INTO `Pharmacy_mangement_system`.`Order` (`Order_ID`, `Emp_ID`, `Prescription_ID`, `Order_Date`) VALUES (''234724','6899','76465','2022-09-24');

Screenshot :

Order_ID	Emp_ID	Prescription_ID	Order_Date
234724	6899	76465	2022-09-24
237417	7853	56744	2022-04-24
278467	6506	45333	2022-12-24
323291	8239	42354	2022-09-24
347643	6798	22987	2022-04-24
348574	7670	13345	2022-04-29
348578	5621	23456	2022-07-24
382473	7788	43522	2022-12-24
384233	7528	98764	2022-05-23
384759	7388	56321	2022-04-04
433853	9102	67574	2022-01-24
437853	5382	66352	2022-11-24
476347	6949	54622	2022-05-24
483756	7570	12356	2022-04-02
584769	9729	14678	2022-04-05
634572	5169	22113	2022-11-24
638475	8272	12342	2022-04-24
645734	5948	54654	2022-04-24
654676	9054	34356	2022-01-24
657464	5228	10675	2022-11-08
734673	7386	24324	2022-03-24
756933	9778	34556	2022-03-02
765347	8346	66533	2022-11-24

5. Ordered_medicines :

SQL Statement :

INSERT INTO `Pharmacy_mangement_system`.`Ordered Medicine` (`Order_ID`, `OrderQty`, `DrugName`) VALUES ('205216','Pemazyre','19');

Screenshot :

Order_ID	Medicine_Name	Order_qty
34537	Pemazyre	8
46873	Pemazyre	6
34536	Tecartus	4
56757	Dexmedetomidine Accord	2
65767	Trumenba	6
56755	Xalkori	8
98767	Macugen	5
78544	Livtencity	6
46887	Flixabi	7
67868	Mysildecard	8
68658	Ocaliva	10
35753	Kevzara	2
35655	Uplizna	3
56212	VidPrevtyn Beta	5
12345	Zynteglo	4
56721	Tyverb	10
21345	Vaxzevria (previously C...	6
32543	Tecfidera	8
90874	Lacosamide Accord	10
46224	Blitzima	6
22435	Truxima	4
23546	Zeposia	10

6. Prescriptions :

SQL Statement :

INSERT INTO `Pharmacy_mangement_system`.`Prescription` (`customer_ID`, `Doctor_ID`, `medicine_name`, `Prescription_ID`, `Prescription_Date`) VALUES ('28995','4589','Xalkori','39570','09-11-18');

Screenshot :

customer_ID	Prescription_ID	Medicine_Name	Doctor_ID	Prescription_Da...
32980	10675	Diclofenac	434879	2022-03-20
29165	12342	Cevenfacta	237423	2018-09-03
47457	12356	Macugen	786321	2018-02-17
28936	13236	Hydroxocobalamin	345347	2021-12-03
22128	13345	Kevzara	544380	2020-05-31
32452	14678	Flixabi	674522	2018-12-02
39884	21358	Suboxone	237423	2020-08-26
40175	22113	Ximluci	274222	2022-08-23
26682	22987	Diazepam	142734	2018-02-28
17725	23456	Truxima	564587	2018-02-17
15175	23522	Paracetamol	342778	2019-04-07
13675	24324	Rozlytrek	436785	2020-09-26
21860	24467	Zynteglo	674522	2022-08-23
14656	25351	Risedronate	587654	2021-03-19
41790	26753	Tazorac	576222	2021-09-21
11747	32154	VidPrevtyn Beta	237423	2018-09-03
42327	32444	Norco	687457	2022-10-02
14284	34113	Hydroxyzine	544380	2021-05-21
36509	34356	Nasonex	344777	2022-11-20
47389	34467	Benztropine	348523	2021-08-17
16074	34556	Ocaliva	457227	2019-08-29
28335	34867	Tyverb	436785	2022-05-21
12501	42354	Tecartus	564587	2022-05-14

7. Doctor :

SQL Statement :

```
INSERT INTO `Pharmacy_mangement_system`.`Doctor` (`Doctor_ID`,`DoctorName`)
VALUES ('1991','ORCHARDJOHN');
```

Screenshot :

Doctor_ID	Doc_Name
137462	SATHRE HOWARD
142734	KORMENDI ROBERT
234723	WILSON JOEL R
237423	AREM , RIDHA
274222	GLASS ROBERT
342778	HAMMOND ISAAC
342874	WOLFF DONALD
344777	JOHN ORCHARD
345347	SHAFFER JAMES
348523	BLOCK MARGARET
364571	GUPTA RAKESH K
434879	LOUISSAINT EDDY
436785	BOURNE GERALD...
454549	ABO-AUDA WAEL
457227	RICE WILLIAM J
458332	MURDOCK KIRK
544380	MCGUIRE KERRY
546577	COLEMAN CONST...
546898	FREI EMIL

USE CASES

Name : Meghana Bangalore Srikantha

Below are the Use Cases using SQL Joins:

Use Case 1: Extract customers details and their prescriptions between a range of dates.

```
Select Prescription.Prescription_ID, Customer.customer_ID, Customer.first_name,
Prescription.Prescription_Date
FROM Prescription
INNER JOIN Customer ON Prescription.customer_ID=Customer.customer_ID WHERE
Prescription_Date Between '2022-05-21' AND '2022-11-22';
```

Use Case 2: Extract Medicine Names that are less than 10 number in stock from the Ordered Medicines Table along with the Order Quantity.

```
SELECT Medicine.Medicine_Name,Medicine.Stock_Qty,ordered_medicines.Order_qty
From Medicine
RIGHT JOIN ordered_medicines ON Medicine.Medicine_Name =
ordered_medicines.Medicine_Name
WHERE Stock_Qty < '10';
```

Use Case 3 : To extract the data of pharmacists who worked on orders for particular dates

```
SELECT pharmacists.Emp_ID, Orders.Order_ID,Orders.Order_Date
FROM pharmacists
LEFT JOIN Orders
ON pharmacists.Emp_ID = Orders.Emp_ID
Order By Order_Date DESC;
```

Use Case 4: To extract the data of the doctor who prescribed the medicines.

```
SELECT Doctor.Doctor_ID,Doctor.Doc_Name, Prescription.Prescription_ID
From Doctor
RIGHT JOIN Prescription
ON Doctor.Doctor_ID = Prescription.Doctor_ID
WHERE Doc_Name LIKE '%l%';
```

Use Case 5: Extracts the customer_ID, Prescription_ID and Order_ID

```
SELECT Customer.customer_ID, Prescription.Prescription_ID, Orders.Order_ID
From Customer
JOIN Prescription
ON Customer.customer_ID = Prescription.customer_ID
JOIN Orders
ON Prescription.Prescription_ID = Orders.Prescription_ID;
```

Name : Pooja Kuberaiah

UsedCase1: To view which customer has ordered medicine on which date

```
SELECT Order.Order_ID, Order.Prescription_ID, Order.OrderDate
FROM Order
INNER JOIN Customers ON Orders.Prescription_ID=Customers.CustomerID;
```

UseCase2: To extract the customers data who ordered medicine with its name and quantity

```
SELECT Ordered Medicine.OrderQty, Ordered Medicine.Drugname
FROM Ordered Medicine
LEFT JOIN Customer ON Customers.CustomerID = Orders.CustomerID
ORDER BY Customers.First_Name, Customers.Last_Name;
```

UseCase3: To view the details of pharmacist handling the customer order

```
SELECT Pharmacists.First_Name, Pharmacists.Last_Name
FROM Pharmacists
RIGHT JOIN Order ON Pharmacists.Emp_ID =Order.Order_ID;
```

UseCase4: To view the medicine prescribed by the doctor

```
SELECT Prescription.Doc_ID, Prescription. Prescription_ID, Prescription_MedicineName
FROM Prescriptions
FULL OUTER JOIN Doctor ON Prescription.Doc_ID= Doctor.Doc_name;
```

UseCase5: To view the customer data with medicine name, doctor_id , prescription

```
 SELECT Prescription.Prescription_ID, Prescription.Customer_ID, Prescription.Doc_ID,
        Prescription.MedicineName
FROM Prescription
INNER JOIN Customers ON Prescription.Prescription_ID=Customers.CustomerID
ORDER BY Customers.CustomerID, Prescription.MedicineName, Prescription.Doc_ID;
```