DBMS MINI-PROJECT WRITE-UP

Description

The main aim of creating a pharmacy database management system application is to provide a convenient and accessible platform for customers to access and manage their medication needs.The customers can easily order and manage their prescription refills through the app, eliminating the need for in-person visits or phone calls to the pharmacy. In this project we have built an user-friendly interface for all people to access medicines by consulting their doctors and providing customers with convenient access to medical advice and guidance.

Problem Statement

Implement JDBC , Convert the following ERD to tables and apply queries to the pharmacy database management system

Team members

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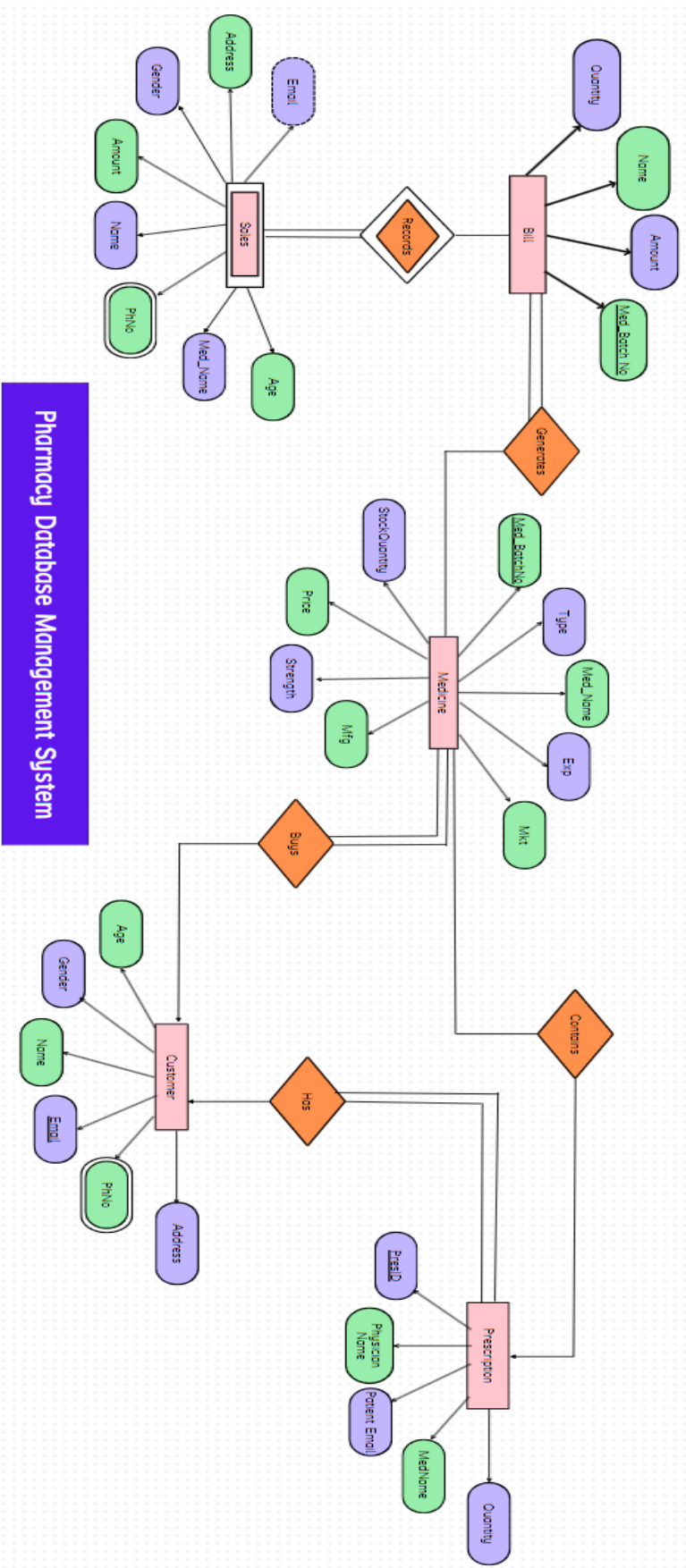
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Database Requirements

Database management system used - MYSQL

Worked using - Mysql Workbench

Database connectivity using - JDBC

Front End development using - Java Swing

ER Diagram

Pharmacy Database Management System

Entity-Relationship diagram for Pharmacy Database Management System.

Sales entity attributes: Address, Gender, Email, Amount, Name, PhNo, Med_Name, Age

Records relationship (Sales — Bill)

Bill entity attributes: Quantity, Name, Amount, Med_Batch_No

Generates relationship

Medicine entity attributes: StockQuantity, Med_BatchNo, Price, Type, Strength, Med_Name, Mfg, Exp, Mkt

Buys relationship

Contains relationship

Customer entity attributes: Age, Gender, Name, Email, PhNo, Address

Has relationship

Prescription entity attributes: PresID, Physician Name, Patient Email, MedName, Quantity

Conversion of ERD to table

Customers table :

Email	Name	Address	PhNo	Age	Gender
aaryajoshi@gmail.com	Aarya Joshi	Karvenagar,Pune	9685986532	23	F
aayush@yahoo.com	Aayush Barve	Delhi	9985654121	32	M
amey.wagh@gmail.com	Amey Wagh	RamNagar,Solapur	9852145632	26	M
anil.malhotra@gmail.com	Anil Malhotra	Nigdi,Pune	8598659985	28	M
anu.dhoti@cumminscollege.in	Anu Dhoti	Solapur	9567435553	18	F
arnav@rediffmail.in	Arnav Patil	IndiraNagar,Nashik	7785451123	42	M
ash.kagane@cumminscollege.in	Ash Kagane	Pune	7776888979	24	F
bobFer34@gmail.com	Bob Fernades	St. Suite,Califonia	9685231452	20	M
jennifer.ferno12@gmail.com	Jennifer Fernandes	Paris	8586598564	43	F
kajal.th@hotmail.com	Kajal Thorat	Raviraj Nagar,Kolhapur	9965825565	34	F
karnik12anandi@gmail.com	Anandi Karnik	Gujarat	7845962315	50	F
lilyjose@gmail.com	Lily Jose	Pune	9834234341	23	M
mona.kadam@gmail.com	Mona Kadam	Ahmednagar	9842342340	35	F
namu@gmail.com	Namu Gopal	Pune	9843242342	20	F
rajesh13@rediffmail.com	Rajesh Wagle	KV, Pune	9985789571	21	F
rama12@hotmail.com	Rama Jadhav	Pimpri, Pune	9548052984	19	F
riya.chourey@gmail.com	Riya Chourey	Pune	8989898933	23	F
riyansh@git.in	Riyansh Varma	MG Road,Mumbai	9645889563	24	M
sakhi@cumminscollege.in	Sakhi Gurav	Akurdi,Pune	9021564895	25	F
sakshi.gurav@gmail.com	Sakshi gurav	Pune	9892342442	20	F
sanjivani@gmail.com	Sanjivani Patil	Delhi	9843244242	21	F
sharvi@gmail.com	Sharvi Shilwant	Ahmednagar	8943242424	19	F
NULL	NULL	NULL	NULL	NULL	NULL

Medicines table :

Med_BatchNo	MedName	Type	Mkt	Mfg	Exp	Strength	StockQty	Price
13256	COF Q	Ayurvedic	Micro Labs	2022-09-09	2026-09-09	200	150	200.00
13425	Sudated-Pe	Allopathy	United Pharmas	2022-09-09	2025-02-01	50	200	200.00
14562	Benadryl	Allopathy	Johnson&Johnson	2022-03-03	2028-09-07	100	120	200.00
14567	Coldrex	Allopathy	GSK Group	2022-05-02	2024-05-03	150	250	210.00
21432	Azithromycin	Allopathy	Century Pharmaceuticals	2021-07-01	2025-04-04	500	5000	231.00
23341	Durotuss	Ayurvedic	Inova Pharamaceuticals	2023-01-07	2029-05-04	110	250	350.00
23425	Aconite	Homeopathy	Boiron	2021-03-07	2023-01-01	500	1000	75.00
23892	Bryonia	Homeopathy	Mayons Pharmaceutical	2022-03-03	2026-05-04	400	1200	250.00
24161	Dabur Honitus	Ayurvedic	Dabur India	2021-09-09	0206-06-06	180	220	150.00
24561	Broncho-P	Homeopathy	MDL	0202-02-04	2026-09-09	200	120	200.00
25161	Solvin	Allopathy	IPC Lab	2022-09-01	2029-03-03	50	200	120.00
28901	Ashwagandha	Ayurvedic	Arjuna Natural	2022-02-02	2025-02-04	100	1000	170.00
34224	Dimetapp	Homeopathy	Foundation Consumer...	2021-07-09	2025-07-09	500	300	300.00
34251	Robitussin	Homeopathy	Haleon Health	2020-02-02	2025-09-04	50	120	120.00
34511	Codral-D	Ayurvedic	Johnson&Johnson	2021-02-03	2026-09-03	100	200	150.00
34513	Decolate	Allopathy	Healthlon Labs	2021-02-02	2025-08-02	100	150	150.00
35262	Tusq-d	Allopathy	Bluecross labs	2022-09-04	2028-03-03	30	120	100.00
52314	Viscodyne	Allopathy	Wockkhardt Lmtd.	2022-04-06	2025-04-06	250	170	60.00
61232	Lemsip	Ayurvedic	Reckat	2023-04-01	2026-04-01	300	150	110.00
67533	Montelukast	Allopathy	Dr.Reddy's Lab	2022-09-08	2024-06-08	50	5600	173.00
76754	Coffea cruda	Homeopathy	Dr.William Schwabe	2023-07-07	2028-05-04	450	800	200.00
78762	Leavocetrizine	Allopathy	Dr.Reddy's Lab	2022-07-07	2025-07-09	50	5500	180.00
89632	Crocin	Allopathy	EnCore HealthCare	2023-06-05	2026-04-07	650	6000	200.00
90872	Adulsa	Ayurvedic	Babuline Pharma	2022-06-05	2024-06-06	250	1500	150.00

Prescription table :

PresId	PhysicianName	PatientEmail	MedNames	Qty
124	Dr. Sage	sakshi.gurav@gmail.com	Leavocetrizine	4
124	Dr. Sage	sakshi.gurav@gmail.com	Ashwagandha	1
126	Dr. Meenal	ashlesha.kagane@cumminscollege.in	Azithromycin	3
126	Dr. Meenal	ashlesha.kagane@cumminscollege.in	Adulsa	2
126	Dr. Meenal	ashlesha.kagane@cumminscollege.in	Coffea cruda	1
127	Dr. Meenal	anu.dhoti@cumminscollege.in	Adulsa	1
127	Dr. Meenal	anu.dhoti@cumminscollege.in	Ashwagandha	5
125	Dr. Sudhir	namita.mahamuni@cumminscollege.in	Ashwagandha	2
125	Dr. Sudhir	namita.mahamuni@cumminscollege.in	Crocin	3
128	Dr. Sudhir	gopal@gmail.com	Montelukast	1
128	Dr. Sudhir	gopal@gmail.com	Aconite	1
129	Dr.Kulkarni	aaryajoshi@gmail.com	Dabur Honitus	4
129	Dr.Kulkarni	aaryajoshi@gmail.com	Solvin	2
129	Dr.Kulkarni	aaryajoshi@gmail.com	Ashwagandha	2
130	Dr.Anil	bobFer34@gmail.com	Robitussin	2
132	Dr.Anil	amey.wagh@gmail.com	Decolate	3
132	Dr.Anil	amey.wagh@gmail.com	Aconite	10
132	Dr.Anil	amey.wagh@gmail.com	Bryonia	1
133	Dr.Radhika	mona.kadam@gmail.com	Bryonia	1
133	Dr.Radhika	mona.kadam@gmail.com	Coffea cruda	4
133	Dr.Radhika	mona.kadam@gmail.com	Crocin	2
133	Dr.Radhika	mona.kadam@gmail.com	Montelukast	12
134	Dr. James	namu@gmail.com	COF Q	5
134	Dr. James	namu@gmail.com	Sudated-Pe	3

Joint table of prescriptions and medicines :

PresId	PhysicianName	PatientEmail	MedNames	Qty	Price
124	Dr. Sage	sakshi.gurav@gmail.com	Leavocetrizine,Ashwagandha	4,1	180.00,170.00
125	Dr. Sudhir	namita.mahamuni@cumminscollege.in	Ashwagandha,Crocin	2,3	170.00,200.00
126	Dr. Meenal	ashlesha.kagane@cumminscollege.in	Azithromycin,Adulsa,Coffea cruda	3,2,1	231.00,150.00,200.00
127	Dr. Meenal	anu.dhoti@cumminscollege.in	Adulsa,Ashwagandha	1,5	150.00,170.00
128	Dr. Sudhir	gopal@gmail.com	Montelukast,Aconite	1,1	173.00,75.00
129	Dr.Kulkarni	aaryajoshi@gmail.com	Dabur Honitus,Solvin,Ashwagandha	4,2,2	150.00,120.00,170.00
130	Dr.Anil	bobFer34@gmail.com	Robitussin	2	120.00
132	Dr.Anil	amey.wagh@gmail.com	Decolate,Aconite,Bryonia	3,10,1	150.00,75.00,250.00
133	Dr.Radhika	mona.kadam@gmail.com	Bryonia,Coffea cruda,Crocin,Montelukast	1,4,2,12	250.00,200.00,200.00,173.00
134	Dr. James	namu@gmail.com	COF Q,Sudated-Pe,Dimetapp	5,3,1	200.00,200.00,300.00
135	Dr. Kanetkar	kajal.th@hotmail.com	Dimetapp,Viscodyne,Solvin	2,4,5	300.00,60.00,120.00
136	Dr. Savitri	jennifer.ferno12@gmail.com	Solvin,Robitussin	7,1	120.00,120.00
137	Dr. Akshat	aaryajoshi@gmail.com	Coffea cruda,Azithromycin	2,7	200.00,231.00
138	Dr. Shiv	anil.malhotra@gmail.com	Dabur Honitus	6	150.00
139	Dr. Swasthya	arnav@rediffmail.in	Robitussin,Montelukast	3,2	120.00,173.00
140	Dr. Fruity	karnik12anandi@gmail.com	Robitussin,Decolate	2,6	120.00,150.00
141	Dr. Karve	rajesh13@rediffmail.com	Bryonia,Azithromycin	1,8	250.00,231.00
142	Dr. Supriya	rama12@hotmail.com	Ashwagandha,Coffea cruda	3,2	170.00,200.00
143	Dr. Kale	sakhi@cumminscollege.in	Viscodyne,Leavocetrizine	3,1	60.00,180.00
144	Dr. Kane	sanjivani@gmail.com	Dabur Honitus,Viscodyne	6,1	150.00,60.00
NULL	NULL	NULL	NULL	NULL	NULL

Sales table :

Email	Name	PhNo	Address	Gender	Age	MedNames	Amount
aayushee.gujarathi@cumminscollege.in	Aayushee Gujarathi	9548052984	Pimpri, Pune	F	21	, Montelukast	865.00
janhavi.sage@gmail.com	Janhavi Sage	424444342	Pune	F	23	, Ashwagandha, Ashwagandha, Ashwagandha,...	520.00
nikita.mahamuni@cumminscollege.in	Nikita Mahamuni	8324729847	Mumbai	F	24	, Coffea cruda	400.00
nikita@gamil.com	Nikita	42144123	fadffda	d	22	, Montelukast, Montelukast, Montelukast, Leav...	173.00
niku@.in	niku	423443242	jlafdkfk	F	23	, Bryonia	250.00
jiva@gmail.com	Jiva Dhoni	9324729881	Delhi	F	4	, Leavocetrizine	180.00
aayushee.gujarathi@cumminscollege.in	Aayushee Gujarathi	9548052984	Pimpri, Pune	F	21	, Coffea cruda	200.00
mani@gmail.com	Mani	423432	jalfjsd	F	3	, Coffea cruda	200.00
riya@gmail.com	Riya	52422424	fjsljfls	F	34	, Draskshasava	150.00
amey@gmail.com	Amey	424242323	FJjflf	M	26	, Montelukast	173.00
aarya@.in	Aarya	442424243	sfjslkfjsk	F	23	, Crocin	3000.00
anandi@.in	Anandi	247487832	PUne	M	78	, Draskshasava	2400.00
arnav@.in	Arnav	424433241	jfjsljdj	M	1	, Montelukast	1384.00
arnav@.in	Arnav	424433241	jfjsljdj	M	1		0.00
popat@gmail.com	Popat Pawar	9846484938	Mumbai	M	80	, Leavocetrizine	1980.00
priya@gmail.com	Priya Bapat	9483748448	pune	F	27	, Leavocetrizine, Leavocetrizine	720.00
shravani.kale@gmail.com	Shravani Kale	8384294274	Shrirampur	F	19	, Ashwagandha, Leavocetrizine, Adulsa	2440.00
shravani.kale@gmail.com	Shravani Kale	8384294274	Shrirampur	F	19	, Ashwagandha, Leavocetrizine, Adulsa, Crocin	600.00
trupti.bargale@.in	Trupti Bargale	2847283947	Kolhapur	F	19	, Azithromycin, Bryonia	962.00
trupti.bargale@.in	Trupti Bargale	2847283947	Kolhapur	F	19	, Azithromycin, Bryonia, Coffea cruda	400.00
rupesh.mahamuni@gmail.com	Rupesh Mahamuni	9028222481	Ahmednagar	M	51	, Ashwagandha, Coffea cruda, Crocin	1140.00
rupesh.mahamuni@gmail.com	Rupesh Mahamuni	9028222481	Ahmednagar	M	51	, Ashwagandha, Coffea cruda, Crocin, Leavoce...	540.00
sharvi@gmail.com	Sharvi Shilwant	8943242424	Ahmednagar	F	5	, Crocin	400.00
sharvi@gmail.com	Sharvi Shilwant	8943242424	Ahmednagar	F	5	, Crocin, Crocin, Crocin	800.00

Bill table :

Bill will be generated once the medicines are purchased

	Med_BatchNo	Name	Qty	Amount
▶	28901	Ashwagandha	1	170.00
	78762	Leavocetrizine	4	180.00
*	NULL	NULL	NULL	NULL

Normalization of tables

All the tables in our database have been normalized.
1NF : each column in our table has a single value and all rows are unique.This ensures that the data is atomic and free from redundancy.
2NF : the non-key attributes in our tables are fully functional dependent on the primary key as well as in 1NF form.
3NF : there is no transitive dependence on any of our tables and we have attained 2NF form.

All the tables are normalized by constructing the relationship tables for all the entity sets considering all the possible combinations.
Exception : Sales table has not been normalized for the following reasons

1. Because every time a customer buys medicines there will be a separate entry for that customer according to the date of purchase.
2. We need to keep a record of our sales and track the sale of medicines and predict the count of customers on a daily basis and keep a record of medicines that are purchased on a large scale so that there is no unavailability of any medicines in our pharmacy.

Queries

1. String sql2 = "insert into bill(Med_BatchNo, Name, Qty, Amount)" + "values(?,?,?,?)";
2. String sql4 = "delete from bill";
3. String query = "select * from bill";
4. String query = "select count(Email) as count from sales";
5. String query1 = "select count(Email) as count from sales where Gender = 'F'";
6. String query2 = "select count(Email) as count from sales where Gender = 'M'";
7. String query3 = "select min(Age) as count from sales";
8. String query4 = "select max(Age) as count from sales";
9. String query5 = "select max(Amount) as count from sales";
10. String query6 = "select avg(Amount) as count from sales";
11. String query = "select * from customer where Email=? ";
12. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine";
13. String query = "select * from medicine where MedName=? ";
14. String query = "select * from prescriptionnmedicine;";

15. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine order by MedName;";
16. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine order by Med_BatchNo;";
17. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine order by Price;";
18. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine order by Mfg;";
19. String query = "select Med_BatchNo, MedName, Mfg, Exp, Price from medicine order by Exp;";
20. String query = "select * from sales order by Email;";
21. String query = "select * from sales order by Name;";
22. String query = "select * from sales order by Address;";
23. String query = "select * from sales order by Gender;";
24. String query = "select * from sales order by Age;";
25. String query = "select * from sales order by Amount;";
26. String sql1 = "insert into customer(email, name, address, phNo, age, gender)" + "values(?,?,?,?,?,?)";
27. String query = "select * from prescriptionnmedicine order by PresId;";
28. String query = "select * from prescriptionnmedicine order by PhysicianName;";
29. String query = "select * from prescriptionnmedicine order by PatientEmail;";
30. String query = "select * from prescriptionnmedicine order by MedNames;";
31. String query = "select * from prescriptionnmedicine order by Price;";
32. String query = "select * from sales order by Email;";
33. String query = "select * from sales order by Name;";
34. String query = "select * from sales order by Address;";
35. String query = "select * from sales order by Gender;";

36. String query = "select * from sales order by Age;";
37. String query = "select * from sales order by Amount;";
38. String query = "select * from prescriptionnmedicine where PatientEmail=? ";
39. insert into prescriptionnmedicine(PresId, PhysicianName, PatientEmail, MedNames, Qty, Price) select PresId, PhysicianName, PatientEmail, group_concat(MedNames) as MedNames, group_concat(Qty) as Qty, group_concat(m.Price) as Price from prescription left join medicine as m on MedNames = m.medName group by PresId, PhysicianName, PatientEmail;
40. String sql1 = "insert into sales(Email,Name,PhNo,Address,Gender,Age,MedNames,Amount)values(?,?,?,?,?,?,?,?)";
41. String query = "select * from customer where Email=? ";
42. String sql1 = "insert into sales(Email,Name,PhNo,Address,Gender,Age,MedNames,Amount)values(?,?,?,?,?,?,?,?)";
43. String query = "update sales set MedNames=?, Amount=? where Email=?";
44. String query = "select * from sales where Email=? ";
45. String query = "select Email, Name, PhNo, Address, Gender, Age, MedNames, Amount from sales";