

**Doctor Scheduler
Final Report**

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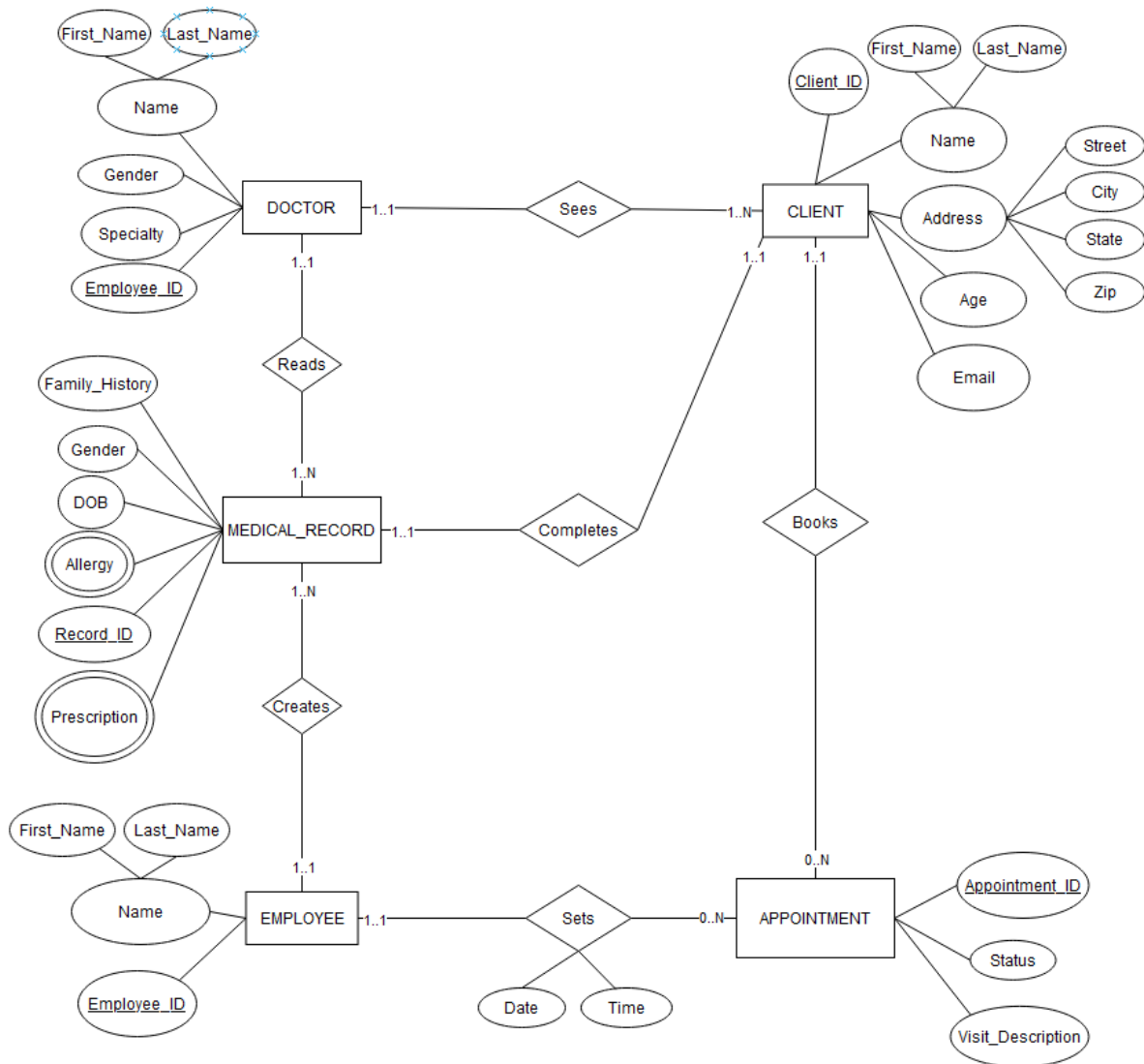
IS 475 - 1001
Professor Han Fen Hu
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Business Problem: With current appointment scheduling it can be difficult for doctors to interpret appointment data that may include duplicate and incorrect data recorded. This may be caused by incorrect data entry from the client or misinterpretation between client and employee. With our database, we will be solving these problems by applying specific business rules and requirements to standardize the data that is entered when creating an appointment.

Business Rules: Business rules are statements that define or constrain some aspect of the business. Business rules must have impacts on an organization's database, and define the situation of a transaction to be accepted or rejected. Our next step in developing our Project Proposal is defining our Business Rules. With that we created 7 business rules in relation to our project:

- A Doctor can only handle 16 clients per day.
- Doctor can't see two clients at the same time
- Client can't schedule two appointments in the same day
- A date and time must be entered to schedule an appointment
- Whenever an appointment is set, a date/time is created
- A 'Client ID' must be assigned for each client
- Each client must be assigned a 'Record ID'
- Client must fill out only one Medical Record form
- An employee may set many appointments or none
- Only keep records when doctors see at least one client

Entity-Relationship Diagram:

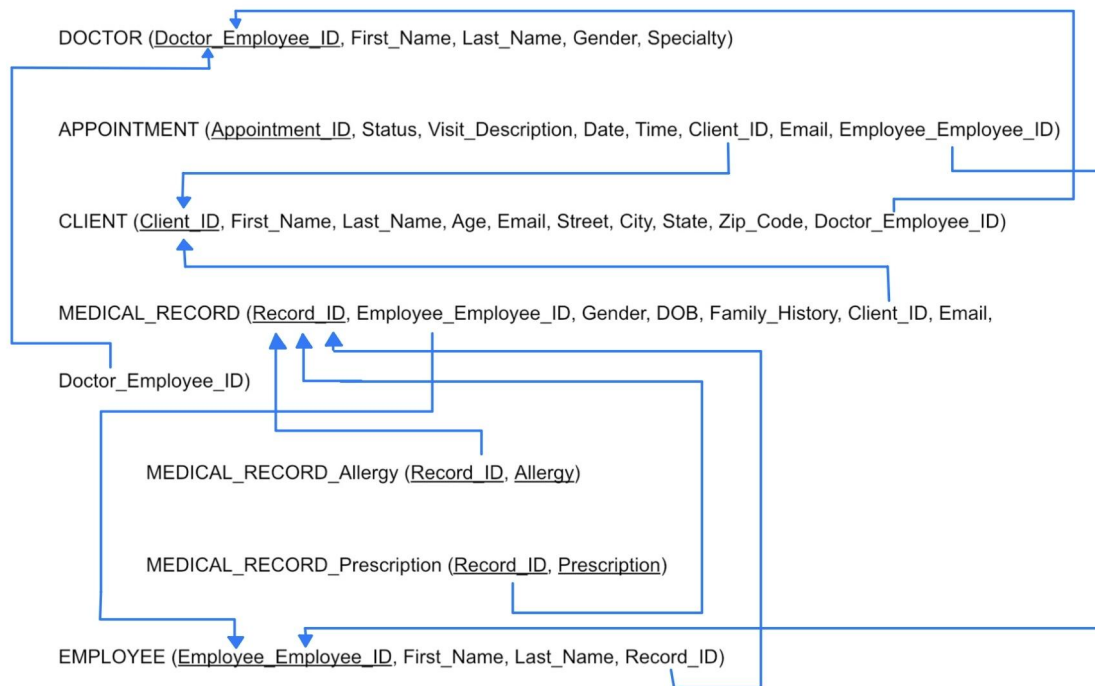


ERD Description:

An appointment database makes scheduling more uniform and improves readability for doctors. One doctor can see many clients but one doctor can only see one client at a time. Records are kept only when doctors see at least one client. Each doctor is described by their first name, last name, gender, specialty, and unique Employee ID. For each client, a unique Client ID, SSN, first name, last name, address, age, and email address are recorded. One client can book many or no appointments and one employee can set none to many appointments. When setting an appointment a record of date and time is kept. Appointments include records for a unique Appointment ID, status, and visit description. Each employee is described by their first name, last name, and unique Employee ID. One employee can create one to many medical records for

clients. One client can complete/fill out one medical record. One doctor can read one or many medical records. Medical records include data for family history, gender, date of birth, allergies, any current prescriptions and a unique Record ID.

Logical Schema:



Josie

Doctor Table Structure:

Table: DOCTOR						
Column	Description	Data type	Length	Null	PK	FK
Doctor_Em ployee_ID	Doctor's ID	char	6	NN	Y	
First_Name	Doctor's First Name	varchar	50	NN		
Last_Name	Doctor's Last Name	varchar	50	NN		
Gender	Doctor's Gender	char	1			

Specialty	Doctor's Medical Specialty	varchar	100			
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Creating the Doctor table:

```
CREATE TABLE IF NOT EXISTS Doctor (
Doctor_Employee_ID char(6) primary key,
First_Name varchar(50) not null,
Last_Name varchar(50) not null,
Gender char(1),
Specialty varchar(100)
);
```

Inserting Doctor data:

```
INSERT INTO Doctor (doctor_employee_ID, first_name, last_name, gender, specialty) VALUES
('d00001', 'Alexandra', 'Alvarado', 'F', 'Obstetrics and Gynecology'),
('d00002', 'Ronnie', 'Cunningham', 'M', 'Physical Medicine and Rehabilitation'),
('d00003', 'Marsha', 'Carlson', 'F', 'Family Medicine'),
('d00004', 'Delbert', 'Beck', 'M', 'Allergy and Immunology'),
('d00005', 'Han-fen', 'Hu', 'F', 'Cardiology'),
('d00006', 'Simon', 'Sandoval', 'M', 'Family Medicine'),
('d00007', 'Mamie', 'Sharp', 'F', 'Colon and Rectal Surgery'),
('d00008', 'Alan', 'Manning', 'M', 'Obstetrics and Gynecology'),
('d00009', 'Kent', 'Mullins', 'M', 'Pediatrics'),
('d00010', 'Agnes', 'Williams', 'F', 'Dermatology'),
('d00011', 'Albert', 'Poole', 'M', 'Gastroenterology'),
('d00012', 'Sheldon', 'Campbell', 'M', 'Physical Medicine and Rehabilitation'),
('d00013', 'Herbert', 'Vega', 'M', 'Hematology'),
('d00014', 'Leticia', 'McLaughlin', 'F', 'Radiology'),
('d00015', 'Joann', 'Chambers', 'F', 'Colon and Rectal Surgery'),
('d00016', 'Cedric', 'Hughes', 'M', 'Physical Medicine and Rehabilitation'),
('d00017', 'Sharon', 'Edwards', 'F', 'Obstetrics and Gynecology'),
('d00018', 'Glenda', 'Norton', 'F', 'Cardiology'),
('d00019', 'Corey', 'Montgomery', 'M', 'Dermatology'),
('d00020', 'Jorge', 'Gross', 'M', 'Hematology'),
('d00021', 'Monica', 'Watkins', 'F', 'Obstetrics and Gynecology'),
('d00022', 'Rita', 'Byrd', 'F', 'Neurology'),
('d00023', 'Alicia', 'Joseph', 'F', 'Ophthalmology'),
('d00024', 'Jimmie', 'Soto', 'M', 'Obstetrics and Gynecology'),
('d00025', 'Thomas', 'Ross', 'M', 'Family Medicine'),
('d00026', 'Raphael', 'Rhino', 'M', 'Emergency Medicine'),
('d00027', 'Troy', 'Howell', 'M', 'Allergy and Immunology'),
('d00028', 'Tricia', 'Waters', 'F', 'Neurology'),
('d00029', 'Theodore', 'Graves', 'M', 'Pediatrics'),
('d00030', 'Eleanor', 'Phelps', 'F', 'Physical Medicine and Rehabilitation'),
('d00031', 'Loretta', 'Francis', 'F', 'Colon and Rectal Surgery'),
('d00032', 'Sheryl', 'Vasquez', 'F', 'Neurology');
```

```
( 'd00033',      'Tina',  'Stanley',      'F',  'Cardiology'),
( 'd00034',      'Caroline',  'Mccormick',  'F',  'Radiology'),
( 'd00035',      'Jim',    'Estrada',      'M',  'Neurology'),
( 'd00036',      'Elena',  'Cobb',  'F',  'Gastroenterology'),
( 'd00037',      'Judith',  'Lewis',      'F',  'Obstetrics and Gynecology'),
( 'd00038',      'Lonnie',  'Smith',  'F',  'Neurology'),
( 'd00039',      'Bill',   'Jacobs',      'M',  'Allergy and Immunology'),
( 'd00040',      'Gerard',  'Rhodes',      'M',  'Ophthalmology'),
( 'd00041',      'Carrie',  'Blair',  'F',  'Pediatrics'),
( 'd00042',      'Verna',  'Castillo',      'F',  'Hematology'),
( 'd00043',      'Maggie',  'Copeland',      'F',  'Dermatology'),
( 'd00044',      'Dominic',  'Lawson',      'M',  'Ophthalmology'),
( 'd00045',      'Janice',  'Mendez',      'F',  'Radiology'),
( 'd00046',      'Herman',  'Collins',      'M',  'Obstetrics and Gynecology'),
( 'd00047',      'Myrtle',  'Harmon',      'F',  'Gastroenterology'),
( 'd00048',      'Olivia',  'Obrien',      'F',  'Family Medicine'),
( 'd00049',      'Greg',   'Riley',  'M',  'Gastroenterology'),
( 'd00050',      'Candace',  'Hampton',      'F',  'Radiology');
```

Update/Delete Statements for DOCTOR table

TABLE: DOCTOR

```
DELETE FROM Doctor
WHERE doctor_employee_ID = 'd00013';
```

```
UPDATE Doctor
SET Specialty = 'Family Medicine'
WHERE doctor_employee_ID = 'd00005';
```

SQL query with commands and how they address the business questions w/ screenshots of query results:

1. Query 1 "How many COVID appointments were scheduled in 2022. Rename the result to COVID Appointments 2022"

```
SELECT count(appointment_ID) AS 'COVID Appointments 2022'
FROM appointment
WHERE visit_description LIKE '%COVID%'
AND date BETWEEN '2022-01-01' AND '2022-12-31';
```

COVID Appointments 2022	
▶ 10	

This query allows employees/doctors to view the trend of COVID appointments following the pandemic in 2021. Doctors are able to see the total count.

- Query 2 "Find appointments that were cancelled before client 'c00019' most recent cancelled appointment. List the appointment(s) by client name, appointment date, and client email address. Sort the result by ascending appointment date. "

```
SELECT first_name AS 'First Name', last_name AS 'Last Name', appointment.email AS 'Client Email',
date as 'Appointment Date'
FROM client
INNER JOIN appointment
ON client.client_ID=appointment.client_ID
HAVING date<
      (SELECT MAX(date)
      FROM appointment
      WHERE client_ID = 'c00019')
order by date;
```

	First Name	Last Name	Client Email	Appointment Da...	
►	Jessica	Roberts	robertsjessica@hotmail.com	2022-01-20	
	April	Hood	AprilHood189@gmail.com	2022-01-28	
	Andrew	Valdez	AndrewValdex8889@hotmail.com	2022-01-30	
	Gavin	Craft	Craftgavin00@live.com	2022-02-10	
	Heather	Wong	Wongheather@hotmail.com	2022-02-18	
	Sandra	Cooper	SandraCooper1@gmail.com	2022-03-09	
	Sylvia	Villanueva	villanueva12@gmail.com	2022-03-14	
	Debbie	Collins	Debbie181@gmail.com	2022-03-15	
	Travis	Hudson	HudsonTra11@gmail.com	2022-03-16	
	Tasha	Delacruz	tasha42@yahoo.com	2022-03-20	
	Hareem	Xiong	Xiong189@yahoo.com	2022-04-06	
	Elon	Musk	theelonmusk@gmail.com	2022-04-10	
	Brian	Miller	BrianM1@live.com	2022-04-18	
	Zhane	Barclay	Zhaneb18@gmail.com	2022-05-12	
	Michael	Smith	Michaelsmith666@yahoo.com	2022-05-21	
	Craig	Cervantes	Craigcervantes1@yahoo.com	2022-05-22	
	Randy	Chang	Randychang@gmail.com	2022-05-22	
	Katheryn	Wood	WoodsKatheryn@hotmail.com	2022-05-22	
	Abigayle	Quicho	Abigaylequicho123@gmail.com	2022-05-22	
	Haider	Haines	HeiderH15@gmail.com	2022-05-22	
	Joseph	Steele	Steeler20@gmail.com	2022-05-27	

guy	guy	guy	guy	guy	guy
Haider	Haines	HeiderH15@gmail.com	2022-05-22		
Joseph	Steele	Steeler20@gmail.com	2022-05-27		
Spencer	Dale	SpenderDale123@yahoo.com	2022-05-31		
Sharon	Huber	SharonHuber37@yahoo.com	2022-06-05		
Fynn	Kaur	mrinkaur17@gmail.com	2022-06-13		
Naruto	Uzumaki	naruto@gmail.com	2022-06-15		
Christine	Simmons	Thechristinesimmons9@gmail.c...	2022-06-16		
Cynthia	Herrera	Cynthiaherrera@yahoo.com	2022-06-17		
Ryan	Sanders	Ryansanders2@gmail.com	2022-06-21		
Dwane	Webber	WebberD11@yahoo.com	2022-06-23		

This query's purpose is to find all appointments before a specific date. The doctor is also able to view email address and name in order to contact the clients.

- Query 3 "Find patients who are prescribed Amoxicillin. List their doctor's last name, the client's first/last name, email address, most recent appointment, and client DOB.

```
SELECT doctor.last_name AS 'Doctor Last Name', client.first_name AS 'Client First Name',
client.last_name AS 'Client Last Name', client.email AS 'Client Email', MAX(appointment.date) AS
'Most Recent Appointment', DOB AS 'Client DOB'
FROM client
INNER JOIN Doctor
ON doctor.doctor_employee_ID=client.doctor_employee_ID
INNER JOIN appointment
ON client.client_ID=appointment.client_ID
LEFT OUTER JOIN medical_record
ON client.client_ID=medical_record.client_ID
INNER JOIN prescription
ON prescription.record_ID=medical_record.record_ID
WHERE prescription.medical_record_prescription LIKE '%Amoxicillin%'
GROUP BY doctor.last_name, client.first_name, client.last_name, client.email, DOB;
```

Doctor Last Name	Client First Name	Client Last Name	Client Email	Most Recent Appointm...	Client DOB
Alvarado	Amy	Lopez	Amylopez@gmail.com,	2022-10-18	2001-01-28
McLaughlin	Heather	Knox	HeatherKnox4@yahoo.com,	2022-08-31	1993-06-26
Phelps	Steve	Jobs	Stevejobs@apple.com,	2022-12-18	1990-10-22
Hampton	Sylvia	Villanueva	villanueva12@gmail.com,	2022-03-14	2006-07-25
Howell	Austin	Ruiz	kingma@optonline.net	2022-09-02	2003-12-23
Waters	Maia	Crawford	valdez@verizon.net	2022-06-22	1988-05-17
Jacobs	Cory	Chambers	gfguy@mac.com	2022-11-21	1969-08-30

This query is meant to help organize the medical records/prescriptions of the clients. The doctor is able to pinpoint a specific prescription - Amoxicillin. Then he is able to see the prescribing doctor and the contact information of the client. This query also shows the most recent appointment which will help gauge when to refill the prescription(s).

Employee Table Structure:

Table: EMPLOYEE						
Column	Description	Data type	Length	Null	PK	FK

Employee_ Employee_ID	Employee's ID	char	6	NN	Y	
First_Name	Employee's First Name	varchar	100			
Last_Name	Employee's Last Name	varchar	100			

Creating the Employee table:

```
CREATE TABLE IF NOT EXISTS Employee (
Employee_Employee_ID char(6) primary key,
First_Name varchar(100),
Last_Name varchar(100)
);
```

Inserting Employee data:

```
INSERT INTO Employee (employee_employee_ID, first_name, last_name) VALUES
('e00001', 'Kenny', 'Griffith'),
('e00002', 'Alma', 'Wallace'),
('e00003', 'Tommy', 'Manning'),
('e00004', 'Carla', 'Pena'),
('e00005', 'Dawn', 'Johnson'),
('e00006', 'Blanca', 'Reid'),
('e00007', 'Bernice', 'Cole'),
('e00008', 'Dorothy', 'Black'),
('e00009', 'Charlie', 'Davidson'),
('e00010', 'Toby', 'Jackson'),
('e00011', 'Samantha', 'Price'),
('e00012', 'Luis', 'Malone'),
('e00013', 'Gertrude', 'Wilson'),
('e00014', 'Traci', 'Bishop'),
('e00015', 'Joshua', 'Holloway'),
('e00016', 'Hilda', 'Morris'),
('e00017', 'Colleen', 'Robertson'),
('e00018', 'Nathaniel', 'Alvarez'),
('e00019', 'Hannah', 'Gray'),
('e00020', 'Robin', 'Tran'),
('e00021', 'Miranda', 'Reyes'),
('e00022', 'Abraham', 'Valdez'),
('e00023', 'Darla', 'Lawson'),
('e00024', 'Rodolfo', 'Freeman'),
('e00025', 'Lola', 'Lamb'),
('e00026', 'Lisa', 'Lloyd'),
('e00027', 'Ralph', 'Harris'),
```

```

('e00028',      'Karl',  'Brock'),
('e00029',      'Abel',  'Greene'),
('e00030',      'Amelia',    'Rodriguez'),
('e00031',      'Jane',  'Newton'),
('e00032',      'Madeline',    'Patrick'),
('e00033',      'Leona',    'Munoz'),
('e00034',      'James',    'Weber'),
('e00035',      'Gail',  'Moran'),
('e00036',      'Isaac',  'Lynch'),
('e00037',      'Felicia',    'Drake'),
('e00038',      'Stacy',  'Hudson'),
('e00039',      'Shane',    'Jensen'),
('e00040',      'Kristen',    'Diaz'),
('e00041',      'Alberta',    'Sanchez'),
('e00042',      'Sadie',  'Lensa'),
('e00043',      'Emmett',    'Figureda'),
('e00044',      'Lynda',    'Logan'),
('e00045',      'Gwen',  'Steele'),
('e00046',      'Darryl',    'Dunn'),
('e00047',      'Edmund',    'Thompson'),
('e00048',      'Winifred',    'Mills'),
('e00049',      'Jenna',  'Hamilton'),
('e00050',      'Josefina',    'Wagner');

```

Update/Delete Statements for EMPLOYEE table

TABLE: EMPLOYEE

```

DELETE FROM Employee
WHERE employee_employee_ID = 'e00046';

```

```

UPDATE Employee
SET first_name = 'Ben', last_name = 'Dover'
WHERE employee_employee_ID = 'e00008';

```

Spencer

Appointment Table Structure:

Appointment Data Dictionary

Table: Appointment						
Column	Description	Data Type	Length	Null	PK	FK
Appointment_ID	Appointment_ID	char	6	NN	Y	
Status	Appointment Status	varchar	10			

Visit_Description	Visit Description	varchar	100			
Date	Appointment Date	date				
Time	Appointment Time	time				
Client_ID	Client_ID	char	6			CLIENT(Client_ID)
Email	Client Email	varchar	30			
Employee_Employee_ID	Employee_Employee_ID	char	6			EMPLOYEE(Emplo yee_Employee_ID)

Creating the Appointment table:

```
CREATE TABLE IF NOT EXISTS Appointment (
  Appointment_ID char(6) UNIQUE NOT NULL Primary Key,
  Status varchar(10),
  Visit_Description varchar(100),
  Date date,
  Time time,
  Client_ID char(6) NOT NULL references CLIENT(Client_ID),
  Email varchar(30) UNIQUE,
  Employee_Employee_ID char(6) NOT NULL references EMPLOYEE(Employee_Employee_ID)
);
```

Inserting Appointment data:

```
INSERT INTO Appointment (appointment_id, status, visit_description, date, time, client_id, email, employee_employee_id) VALUES
('a00001', 'confirmed', 'annual checkup', '2022-10-18', '12:00:00', 'c00001', 'Amylopez@gmail.com', 'e00001'),
('a00002', 'completed', 'chest pain', '2022-06-05', '14:30:00', 'c00002', 'SharonHuber37@yahoo.com', 'e00002'),
('a00003', 'completed', 'allergies', '2022-05-22', '09:30:00', 'c00003', 'Craigcervantes1@yahoo.com', 'e00003'),
('a00004', 'completed', 'injury/sprain', '2022-01-28', '13:00:00', 'c00004', 'AprilHood189@gmail.com', 'e00004'),
('a00005', 'waiting', 'annual physical', '2022-11-22', '08:00:00', 'c00005', 'lucyheartfilia@hotmail.com', 'e00005'),
('a00006', 'waiting', 'follow up appointment', '2022-11-14', '08:30:00', 'c00006', 'Dananamurphy@live.com', 'e00006'),
('a00007', 'completed', 'vaccinations', '2022-05-22', '12:30:00', 'c00007', 'Randychang@gmail.com', 'e00007'),
('a00008', 'cancelled', 'COVID', '2022-05-21', '15:00:00', 'c00008', 'Michaelsmith666@yahoo.com', 'e00008'),
```

('a00009', 'confirmed', 'annual physical', '2022-10-28', '14:30:00', 'c00009',
'Danielkelley01@gmail.com', 'e00009'),
('a00010', 'completed', 'vaccinations', '2022-06-16', '10:00:00', 'c00010',
'Thechristinesimmons9@gmail.com', 'e00010'),
('a00011', 'completed', 'COVID', '2022-05-22', '09:00:00', 'c00011', 'WoodsKatheryn@hotmail.com',
'e00011'),
('a00012', 'completed', 'injury/sprain', '2022-03-16', '12:30:00', 'c00012', 'HudsonTra11@gmail.com',
'e00012'),
('a00013', 'completed', 'annual checkup', '2022-08-08', '13:00:00', 'c00013', 'Wade1114@yahoo.com',
'e00013'),
('a00014', 'completed', 'follow up appointment', '2022-08-31', '13:30:00', 'c00014',
'HeatherKnox4@yahoo.com', 'e00014'),
('a00015', 'completed', 'annual physical', '2022-05-31', '11:00:00', 'c00015',
'SpenderDale123@yahoo.com', 'e00015'),
('a00016', 'cancelled', 'infection', '2022-01-30', '08:00:00', 'c00016', 'AndrewValdex8889@hotmail.com',
'e00016'),
('a00017', 'completed', 'annual checkup', '2022-08-08', '12:00:00', 'c00017',
'JosieRhino123@gmail.com', 'e00017'),
('a00018', 'completed', 'injury/sprain', '2022-05-22', '07:30:00', 'c00018',
'Abigaylequicho123@gmail.com', 'e00018'),
('a00019', 'cancelled', 'infection', '2022-07-24', '09:00:00', 'c00019', 'Horowitzevan112@live.com',
'e00019'),
('a00020', 'waiting', 'annual physical', '2022-12-24', '11:30:00', 'c00020', 'Annieluo123@gmail.com',
'e00020'),
('a00021', 'completed', 'COVID', '2022-08-08', '08:00:00', 'c00021', 'Melaniesims81@gmail.com',
'e00021'),
('a00022', 'waiting', 'follow up appointment', '2022-12-13', '08:30:00', 'c00022',
'Celinahong299@gmail.com', 'e00022'),
('a00023', 'completed', 'infection', '2022-06-23', '13:00:00', 'c00023', 'WebberD11@yahoo.com',
'e00023'),
('a00024', 'cancelled', 'vaccinations', '2022-09-21', '15:00:00', 'c00024', 'Gwalker21@yahoo.com',
'e00024'),
('a00025', 'completed', 'vaccinations', '2022-04-18', '13:30:00', 'c00025', 'BrianM1@live.com', 'e00025'),
('a00026', 'completed', 'COVID', '2022-03-09', '09:00:00', 'c00026', 'SandraCooper1@gmail.com',
'e00026'),
('a00027', 'completed', 'injury/sprain', '2022-09-02', '12:00:00', 'c00027', 'Zhangdiana4@yahoo.com',
'e00027'),
('a00028', 'completed', 'chest pain', '2022-06-21', '07:30:00', 'c00028', 'Ryansanders2@gmail.com',
'e00028'),
('a00029', 'cancelled', 'COVID', '2022-04-10', '09:00:00', 'c00029', 'theelonmusk@gmail.com', 'e00029'),
('a00030', 'waiting', 'follow up appointment', '2022-12-18', '09:00:00', 'c00030', 'Stevejobs@apple.com',
'e00030'),

('a00031', 'completed', 'annual physical', '2022-08-08', '08:30:00', 'c00031', 'ashketchup@gmail.com', 'e00031'),
('a00032', 'completed', 'annual checkup', '2022-05-22', '10:00:00', 'c00032', 'HeiderH15@gmail.com', 'e00032'),
('a00033', 'completed', 'vaccinations', '2022-02-10', '11:30:00', 'c00033', 'Craftgavin00@live.com', 'e00033'),
('a00034', 'completed', 'COVID', '2022-03-20', '07:00:00', 'c00034', 'tasha42@yahoo.com', 'e00034'),
('a00035', 'completed', 'follow up appointment', '2022-05-12', '09:30:00', 'c00035', 'Zhaneb18@gmail.com', 'e00035'),
('a00036', 'cancelled', 'annual checkup', '2022-06-13', '13:00:00', 'c00036', 'mrfinkaur17@gmail.com', 'e00036'),
('a00037', 'completed', 'chest pain', '2022-04-06', '12:00:00', 'c00037', 'Xiong189@yahoo.com', 'e00037'),
('a00038', 'completed', 'COVID', '2022-09-22', '10:30:00', 'c00038', 'Liaria111@live.com', 'e00038'),
('a00039', 'waiting', 'annual physical', '2022-11-21', '07:00:00', 'c00039', 'balldavid7@yahoo.com', 'e00039'),
('a00040', 'completed', 'follow up appointment', '2022-08-02', '15:30:00', 'c00040', 'Keithpham@live.com', 'e00040'),
('a00041', 'completed', 'COVID', '2022-03-15', '13:30:00', 'c00041', 'Debbie181@gmail.com', 'e00041'),
('a00042', 'cancelled', 'annual physical', '2022-08-08', '10:00:00', 'c00042', 'jenniferpage77@gmail.com', 'e00042'),
('a00043', 'confirmed', 'infection', '2022-10-23', '08:30:00', 'c00043', 'lorettauu@gmail.com', 'e00043'),
('a00044', 'cancelled', 'annual checkup', '2022-06-15', '07:00:00', 'c00044', 'naruto@gmail.com', 'e00044'),
('a00045', 'completed', 'chest pain', '2022-05-27', '10:00:00', 'c00045', 'Steeler20@gmail.com', 'e00045'),
('a00046', 'completed', 'annual checkup', '2022-06-17', '11:30:00', 'c00046', 'Cynthiaherrera@yahoo.com', 'e00046'),
('a00047', 'completed', 'injury/sprain', '2022-02-18', '12:00:00', 'c00047', 'Wongheather@hotmail.com', 'e00047'),
('a00048', 'completed', 'COVID', '2022-01-20', '09:00:00', 'c00048', 'robertsjessica@hotmail.com', 'e00048'),
('a00049', 'completed', 'injury/sprain', '2022-08-18', '10:30:00', 'c00049', 'charlesc1@gmail.com', 'e00049'),
('a00050', 'completed', 'COVID', '2022-03-14', '12:30:00', 'c00050', 'villaneva12@gmail.com', 'e00050'),
('a00051', 'confirmed', 'COVID', '2022-10-12', '10:00:00', 'c00051', 'yamla@comcast.net', 'e00051'),
('a00052', 'completed', 'annual checkup', '2022-06-10', '12:30:00', 'c00052', 'unreal@verizon.net', 'e00052'),
('a00053', 'completed', 'allergies', '2022-05-21', '08:30:00', 'c00053', 'alias@optonline.net', 'e00053'),
('a00054', 'completed', 'annual physical', '2022-01-28', '13:30:00', 'c00054', 'murty@icloud.com', 'e00054'),
('a00055', 'waiting', 'infection', '2022-11-12', '08:30:00', 'c00055', 'cosimo@msn.com', 'e00055'),
('a00056', 'waiting', 'COVID', '2022-11-18', '10:30:00', 'c00056', 'bmidd@att.net', 'e00056'),

('a00057', 'completed', 'follow up appointment', '2022-05-20', '11:30:00', 'c00057', 'william@verizon.net', 'e00057'),
('a00058', 'cancelled', 'infection', '2022-05-20', '14:00:00', 'c00058', 'bryanw@me.com', 'e00058'),
('a00059', 'confirmed', 'annual checkup', '2022-10-28', '12:30:00', 'c00059', 'seurat@gmail.com', 'e00059'),
('a00060', 'completed', 'allergies', '2022-06-10', '11:00:00', 'c00060', 'teverett@sbcglobal.net', 'e00060'),
('a00061', 'completed', 'vaccinations', '2022-05-13', '08:00:00', 'c00061', 'eabrown@yahoo.com', 'e00061'),
('a00062', 'completed', 'annual checkup', '2022-03-12', '09:30:00', 'c00062', 'jandrese@hotmail.com', 'e00062'),
('a00063', 'completed', 'injury/sprain', '2022-08-09', '08:00:00', 'c00063', 'ajohnson@optonline.net', 'e00063'),
('a00064', 'completed', 'COVID', '2022-08-31', '10:30:00', 'c00064', 'laird@optonline.net', 'e00064'),
('a00065', 'completed', 'follow up appointment', '2022-05-31', '10:00:00', 'c00065', 'birddog@yahoo.com', 'e00065'),
('a00066', 'completed', 'annual physical', '2022-01-10', '07:00:00', 'c00066', 'tsuruta@aol.com', 'e00066'),
('a00067', 'completed', 'infection', '2022-08-09', '11:00:00', 'c00067', 'lcheng@hotmail.com', 'e00067'),
('a00068', 'completed', 'vaccinations', '2022-05-20', '12:30:00', 'c00068', 'inico@hotmail.com', 'e00068'),
('a00069', 'completed', 'annual checkup', '2022-07-14', '10:00:00', 'c00069', 'sharon@hotmail.com', 'e00069'),
('a00070', 'waiting', 'infection', '2022-12-24', '10:30:00', 'c00070', 'fudrucker@mac.com', 'e00070'),
('a00071', 'completed', 'annual physical', '2022-08-09', '13:00:00', 'c00071', 'ralamosm@aol.com', 'e00071'),
('a00072', 'waiting', 'COVID', '2022-12-10', '14:30:00', 'c00072', 'heroine@outlook.com', 'e00072'),
('a00073', 'completed', 'follow up appointment', '2022-06-21', '10:00:00', 'c00073', 'campware@hotmail.com', 'e00073'),
('a00074', 'cancelled', 'infection', '2022-09-22', '15:30:00', 'c00074', 'psharpe@gmail.com', 'e00074'),
('a00075', 'completed', 'injury/sprain', '2022-04-16', '10:30:00', 'c00075', 'chrwin@gmail.com', 'e00075'),
('a00076', 'completed', 'allergies', '2022-03-09', '08:00:00', 'c00076', 'giafly@live.com', 'e00076'),
('a00077', 'completed', 'COVID', '2022-09-02', '09:00:00', 'c00077', 'kingma@optonline.net', 'e00077'),
('a00078', 'completed', 'allergies', '2022-06-22', '12:30:00', 'c00078', 'valdez@verizon.net', 'e00078'),
('a00079', 'completed', 'chest pain', '2022-04-10', '07:30:00', 'c00079', 'markjugg@msn.com', 'e00079'),
('a00080', 'waiting', 'annual checkup', '2022-12-16', '10:30:00', 'c00080', 'greetar@live.com', 'e00080'),
('a00081', 'completed', 'chest pain', '2022-08-08', '09:30:00', 'c00081', 'kostas@att.net', 'e00081'),
('a00082', 'completed', 'COVID', '2022-05-22', '11:00:00', 'c00082', 'rbarreira@verizon.net', 'e00082'),
('a00083', 'completed', 'vaccinations', '2022-02-12', '10:00:00', 'c00083', 'stthomas@verizon.net', 'e00083'),
('a00084', 'completed', 'infection', '2022-03-20', '08:00:00', 'c00084', 'miltchev@hotmail.com', 'e00084'),
('a00085', 'completed', 'annual checkup', '2022-05-11', '07:30:00', 'c00085', 'moinefou@optonline.net', 'e00085'),
('a00086', 'completed', 'follow up appointment', '2022-06-23', '07:00:00', 'c00086', 'mleary@yahoo.ca', 'e00086'),
('a00087', 'completed', 'COVID', '2022-04-05', '11:00:00', 'c00087', 'barlow@comcast.net', 'e00087'),

```
( 'a00088', 'completed', 'chest pain', '2022-09-22', '12:00:00', 'c00088', 'dbrobins@hotmail.com', 'e00088'),
( 'a00089', 'waiting', 'follow up appiontment', '2022-11-21', '10:00:00', 'c00089', 'gfxguy@mac.com', 'e00089'),
( 'a00090', 'completed', 'annual physical', '2022-08-02', '07:30:00', 'c00090', 'research@hotmail.com', 'e00090'),
( 'a00091', 'completed', 'allergies', '2022-03-12', '15:30:00', 'c00091', 'rnelson@live.com', 'e00091'),
( 'a00092', 'completed', 'COVID', '2022-08-08', '12:30:00', 'c00092', 'mfleming@mac.com', 'e00092'),
( 'a00093', 'confirmed', 'annual physical', '2022-10-22', '07:30:00', 'c00093', 'novanet@outlook.com', 'e00093'),
( 'a00094', 'completed', 'injury/sprain', '2022-06-15', '08:00:00', 'c00094', 'oster@optonline.net', 'e00094'),
( 'a00095', 'completed', 'annual checkup', '2022-05-27', '11:00:00', 'c00095', 'lipeng@att.net', 'e00095'),
( 'a00096', 'completed', 'chest pain', '2022-06-17', '13:30:00', 'c00096', 'shang@icloud.com', 'e00096'),
( 'a00097', 'completed', 'COVID', '2022-02-17', '15:00:00', 'c00097', 'dkeeler@yahoo.ca', 'e00097'),
( 'a00098', 'completed', 'injury/sprain', '2022-01-20', '08:30:00', 'c00098', 'makarow@sbcglobal.net', 'e00098'),
( 'a00099', 'completed', 'vaccinations', '2022-08-18', '12:30:00', 'c00099', 'ahuillet@mac.com', 'e00099'),
( 'a00100', 'completed', 'infection', '2022-03-12', '10:30:00', 'c00100', 'ian28@donnelly.com', 'e00100');
```

Data Update/Delete:

```
DELETE FROM Appointment
WHERE Client_ID = 'c00029';

UPDATE Appointment
SET Visit_Description = "follow up appointment"
WHERE Appointment_ID = 'a00089';
```

SQL query with commands and how they address the business questions w/ screenshots of query results:

1. Find all COVID related appointments in the last 8 months (April 1, 2022 - November 30, 2022). List the Client's first and last name, gender, age, family history, and date of their appointment. Sort by date in descending order.

```
SELECT Client.First_Name AS "Client First Name", Client.Last_Name AS "Client Last Name", Medical_Record.Gender, Client.Age, Medical_Record.Family_History AS "Family Medical History", Appointment.Date AS "Appointment Date"
FROM Client
INNER JOIN Medical_Record
ON Client.Client_ID = Medical_Record.Client_ID
INNER JOIN Appointment
```

```

ON Client.Client_ID = Appointment.Client_ID
WHERE Appointment.Visit_Description = "COVID"
AND Appointment.Date BETWEEN '2022-04-01' and '2022-11-30'
ORDER BY Appointment.Date DESC;

```

Client First Name	Client Last Name	Gender	Age	Family Medical History	Appointment Date
Hazel	Flynn	M	20	Mad Cow Disease, COVID-19	2022-11-18
Dawson	Collins	F	18	Heart Disease	2022-10-12
Aria	Li	F	22	Diabetes	2022-09-22
Austin	Ruiz	M	18	Asthma	2022-09-02
Eve	Hamilton	F	25	NULL	2022-08-31
Melanie	Sims	F	19	NULL	2022-08-08
Frank	Ibarra	F	53	NULL	2022-08-08
Katheryn	Wood	M	28	NULL	2022-05-22
Donovan	Willis	F	25	NULL	2022-05-22
Michael	Smith	M	26	NULL	2022-05-21
Elon	Musk	M	69	NULL	2022-04-10
Israel	Peck	F	18	Mad Cow Disease	2022-04-05

This query makes it easier to pull from a large amount of data in order to better assist doctors in interpreting how serious COVID has been the past 8 months along with possible complications due to gender, age, and/or family history.

2. Locate all clients with a history of High Blood Pressure or COVID and include their current doctor. List clients first name, last name, DOB, gender, their doctor's name, and family history. Group the list by Client full name, date of birth, gender, family history, and doctor last name. Sort the list in alphabetical order by client last name.

```

SELECT Client.First_Name AS "Client First Name", Client.Last_Name AS "Client Last Name", DOB,
Family_History AS "History", Doctor.Last_Name AS "Doctor"
FROM Client
INNER JOIN Medical_Record
ON Client.Client_ID = Medical_Record.Client_ID
INNER JOIN Doctor
ON Client.Doctor_Employee_ID = Doctor.Doctor_Employee_ID
WHERE Medical_Record.family_history LIKE '%High Blood Pressure%'
OR Medical_Record.family_history LIKE '%COVID%'
GROUP BY Client.First_Name, Client.Last_Name, Medical_Record.DOB,
Medical_Record.Family_History, Doctor.Last_Name
ORDER BY Client.Last_Name ASC;

```


Client First Name	Client Last Name	DOB	Gender	History	Doctor
Jasmin	Clay	2005-10-02	M	High Blood Pressure,Heart Disease	Campbell
Debbie	Collins	1986-06-20	F	COVID-19	Blair
Sandra	Cooper	2000-02-26	M	COVID-19	Rhino
Hazel	Flynn	2007-11-12	M	Mad Cow Disease, COVID-19	Sandoval
Cynthia	Herrera	1970-12-11	M	Cancer,COVID-19	Collins
Steve	Jobs	1990-10-22	F	COVID-19,Cancer	Phelps
Johanna	Kline	1996-04-02	M	COVID-19	Mullins
Dana	Murphy	1967-12-10	M	COVID-19	Sandoval
Sienna	Summers	1967-06-22	M	COVID-19	Rhino
Andrew	Valdez	1989-02-21	M	High Blood Pressure,Cancer	Hughes
Valery	Webster	1997-11-19	F	COVID-19,Asthma,Mental Illness	Edwards
Heather	Wong	2000-02-10	F	High Blood Pressure	Harmon

This query lets doctors know which clients with COVID may be at a greater risk due to their family history. This makes the data much easier to interpret for doctors.

3. Find all clients who dealt with Doctor Gross, Manning, and Poole. In addition, list the client's description for their visit and the date and status of their appointment. Along with Doctor name, show Doctor ID. Sort the list by Doctor ID in ascending order.

```
SELECT Doctor.Doctor_Employee_ID AS "Doctor ID", Doctor.Last_Name AS "Doctor",
Client.First_Name AS "Client First Name", Client.Last_Name AS "Client Last Name",
Appointment.Date AS "Appointment Date", Appointment.Status AS "Appointment Status",
Appointment.Visit_Description AS "Reason for visit"
FROM Client
INNER JOIN Doctor
ON Client.Doctor_Employee_ID = Doctor.Doctor_Employee_ID
INNER JOIN Appointment
ON Client.Client_ID = Appointment.Client_ID
WHERE Doctor.Doctor_Employee_ID = 'd00011'
OR Doctor.Doctor_Employee_ID = 'd00020'
OR Doctor.Doctor_Employee_ID = 'd00008'
GROUP BY Doctor.Doctor_Employee_ID, Doctor.Last_Name, Client.First_Name,
Client.Last_Name, Appointment.Date, Appointment.Visit_Description, Appointment.Status
ORDER BY Doctor.Doctor_Employee_ID ASC;
```

Doctor ID	Doctor	Client First Name	Client Last Name	Appointment Date	Appointment Status	Reason for visit
d00008	Manning	Korbin	Duarte	2022-05-20	cancelled	infection
d00008	Manning	Michael	Smith	2022-05-21	cancelled	COVID
d00011	Poole	Kasen	Phelps	2022-05-13	completed	vaccinations
d00011	Poole	Katheryn	Wood	2022-05-22	completed	COVID
d00020	Gross	Annie	Luo	2022-12-24	waiting	annual physical
d00020	Gross	Jaylyn	Lowery	2022-12-24	waiting	infection

This query pulls data pertaining to clients that have an appointment with specific doctors. This makes the data much easier to interpret for doctors and employees, creating a more organized system.

Abigayle

Table Structure:

Table: Allergy						
Column	Description	Data Type	Length	Null	PK	FK
Record_ID	Medical Record ID	char	6	NN	Y	MEDICAL_RECORD(Record_ID)
Allergy	Types of allergies associated to a client's medical record	varchar	100		Y	

Creating the Allergy table:

```
CREATE TABLE IF NOT EXISTS Allergy (  
  Record_ID char(8) NOT NULL,  
  Medical_Record_Allergy varchar(100),  
  Constraint PK_Medical_Record_ID primary key (Record_ID),  
  Constraint FK_Medical_Record_ID foreign key (Record_ID) references  
  Medical_Record(Record_ID)  
);
```

Inserting Allergy data:

```
INSERT INTO Allergy (Record_ID, Medical_Record_Allergy) VALUES  
(r10001, 'Shellfish'),  
(r10002, 'Skin'),  
(r10003, 'Latex'),  
(r10004, 'Dogs'),  
(r10005, 'Penicillin'),  
(r10006, 'Sulfonamides'),  
(r10007, 'Anticonvulsants'),  
(r10008, 'Aspirin'),  
(r10009, 'Tylenol, Claritin'),  
(r10010, 'Cat'),  
(r10011, 'Hay'),  
(r10012, 'Peanut'),  
(r10013, 'Seafood'),  
(r10014, 'Amoxicillin'),  
(r10015, 'Peanut'),  
(r10016, 'Pine'),  
(r10017, 'Oak'),  
(r10018, NULL),  
(r10019, 'Wheat, Latex'),
```

('r10020', 'Pollen'),
('r10021', 'Milk'),
('r10022', 'Vancomycin'),
('r10023', 'Mold'),
('r10024', 'Peanut'),
('r10025', 'Mold'),
('r10026', 'Dust'),
('r10027', NULL),
('r10028', 'Seasonal'),
('r10029', 'Dust, Mold'),
('r10030', 'Amoxicillin'),
('r10031', 'Soy, Milk'),
('r10032', 'Vancomycin, Tylenol'),
('r10033', 'Tylenol'),
('r10034', 'Shellfish'),
('r10035', 'Seasonal'),
('r10036', 'Pollen, Seasonal'),
('r10037', NULL),
('r10038', 'Fexofenadine, Vancomycin'),
('r10039', 'Shellfish, Wheat'),
('r10040', 'Claritin'),
('r10041', 'Eosinophilic'),
('r10042', 'Shellfish'),
('r10043', 'Cat, Dog'),
('r10044', 'Penicillin, Latex'),
('r10045', 'Pollen, Pine, Grass'),
('r10046', 'Claritin'),
('r10047', NULL),
('r10048', 'Chlorine, Seasonal'),
('r10049', 'Mold'),
('r10050', 'Amoxicillin'),
('r10051', 'Peanut'),
('r10052', 'Seafood'),
('r10053', 'Cat, Dogs, Claritin'),
('r10054', NULL),
('r10055', 'Seafood'),
('r10056', 'Pine, Peanut'),
('r10057', 'Penicillin, Pollen'),
('r10058', 'Vancomycin'),
('r10059', 'Peanut'),
('r10060', 'Dust'),
('r10061', 'Pollen'),
('r10062', 'Seafood'),
('r10063', 'Mold'),
('r10064', 'Latex'),
('r10065', 'Mold'),
('r10066', NULL),
('r10067', 'Sulfonamides'),
('r10068', 'Seafood'),
('r10069', 'Latex'),

```
(r10070, 'Sulfonamides'),
(r10071, 'Vancomycin'),
(r10073, 'Peanut'),
(r10072, 'Soy'),
(r10074, 'Pollen, Seasonal Latex'),
(r10075, 'Mold'),
(r10076, 'Amoxicillin'),
(r10077, 'Cat'),
(r10078, 'Sulfonamides'),
(r10079, 'Dust'),
(r10080, 'Penicillin'),
(r10081, 'Peanut'),
(r10082, NULL),
(r10083, 'Peanut'),
(r10084, 'Claritin'),
(r10085, 'Seafood'),
(r10086, 'Dogs'),
(r10087, 'Sulfonamides'),
(r10088, 'Pollen'),
(r10089, 'Sulfonamides'),
(r10090, 'Vancomycin Latex'),
(r10091, 'Sulfonamides'),
(r10092, 'Peanut'),
(r10093, 'Latex'),
(r10094, 'Peanut'),
(r10095, 'Penicillin'),
(r10096, 'Claritin'),
(r10097, 'Mold'),
(r10098, 'Peanut ,Soy'),
(r10099, 'Cat'),
(r10100, 'Seafood');
```

Data Update/Delete:

```
DELETE FROM Allergy
WHERE Record_ID = 'r10088';

UPDATE Allergy
SET Medical_Record_Allergy = 'Peanut, Soy'
WHERE Record_ID = 'r10098';
```

Table Structure:

Table: Prescription						
Column	Description	Data Type	Length	Null	PK	FK
Record_ID	Record ID	char	6	NN	Y	MEDICAL_RECORD(Record_ID)
Prescription	List of all	varchar	100		Y	

	medical prescriptions associated to a client's medical record					
--	---	--	--	--	--	--

Creating the Prescription table:

```
CREATE TABLE IF NOT EXISTS Prescription (
  Record_ID char(6) NOT NULL,
  Medical_Record_Prescription varchar(100),
  Constraint PK_Medical_Record_IDPrescription primary key (Record_ID),
  Constraint FK_Medical_Record_IDPrescription foreign key (Record_ID) references
  Medical_Record(Record_ID)
);
```

Inserting Prescription data:

```
INSERT INTO Prescription(Record_ID, Medical_Record_Prescription) VALUES
('r10001', 'Amoxicillin'),
('r10002', 'Amlodipine'),
('r10003', 'Levothyroxine,Ibuprofen'),
('r10004', 'Albuterol sulfate HFA'),
('r10005', 'Amphetamine,Dextroamphetamine'),
('r10006', 'Sulfonamides'),
('r10007', 'Anticonvulsants, Acetaminophen'),
('r10008', 'Alprazolam'),
('r10009', 'Cyclobenzaprine,Folic acid'),
('r10010', 'Azithromycin'),
('r10011', 'Hydrochlorothiazide'),
('r10012', 'Ibuprofen, Losartan'),
('r10013', 'Naproxen, Celecoxib'),
('r10014', 'Amoxicillin'),
('r10015', 'Trazodone'),
('r10016', 'Losartan'),
('r10017', 'Benzonatate'),
('r10018', NULL),
('r10019', 'Fluconazole,Sulfamethoxazole trimethoprim DS'),
('r10020', 'Methylprednisolone,Furosemide'),
('r10021', 'Loratadine'),
('r10022', 'Doxycycline hyclate'),
('r10023', 'Synthroid'),
('r10024', 'Ibuprofen'),
('r10025', 'Triamcinolone Acetonide'),
('r10026', 'Diazepam'),
('r10027', NULL),
('r10028', 'Doxycycline hyclate,Synthroid,Loratadine'),
('r10029', 'Ferosul, Diazepam'),
('r10030', 'Amoxicillin'),
```

('r10031', 'Fluconazole, Ferosul, Hydrochlorothiazide'),
('r10032', 'Tylenol, Benadryl'),
('r10033', 'Synthroid'),
('r10034', 'Ibuprofen, Benadryl'),
('r10035', 'Acetaminophen'),
('r10036', 'Zolpidem, Azithromycin'),
('r10037', NULL),
('r10038', 'Benadryl, Fexofenadine'),
('r10039', 'Acetaminophen, Ventolin'),
('r10040', 'Claritin'),
('r10041', 'Eosinophilic'),
('r10042', 'Ibuprofen'),
('r10043', 'Lisinopril, Atorvastatin'),
('r10044', 'Penicillin, Zolpidem, Ventolin'),
('r10045', 'Azithromycin, Atorvastatin Calcium, Hydrochlorothiazide'),
('r10046', 'Claritin'),
('r10047', NULL),
('r10048', 'Lisinopril, Levothyroxine'),
('r10049', 'Ibuprofen'),
('r10050', 'Amoxicillin'),
('r10051', 'Losartan'),
('r10052', 'Ferosul, Azithromycin'),
('r10053', NULL),
('r10054', 'Atorvastatin Calcium'),
('r10055', 'Cyclobenzaprine'),
('r10056', 'Ferosul, Zolpidem'),
('r10057', 'Triamcinolone Acetonide'),
('r10058', 'Cyclobenzaprine'),
('r10059', 'Ibuprofen'),
('r10060', NULL),
('r10061', 'Benzonatate, Atorvastatin Calcium'),
('r10062', 'Cyclobenzaprine'),
('r10063', 'Dextroamphetamine'),
('r10064', 'Benadryl, moxocillin'),
('r10065', 'Triamcinolone Acetonide'),
('r10066', 'Benzonatate'),
('r10067', 'Amlodipine'),
('r10068', 'Diazepam'),
('r10069', 'Fexofenadine'),
('r10070', 'Triamcinolone Acetonide'),
('r10071', 'Azithromycin'),
('r10072', 'Acetaminophen'),
('r10073', 'Benzonatate'),
('r10074', 'Lisinopril, Levothyroxine'),
('r10075', 'Cyclobenzaprine'),
('r10076', 'Benadryl'),
('r10077', 'Amoxicillin'),
('r10078', 'Amoxicillin, Hydrochlorothiazide'),
('r10079', NULL),
('r10080', 'Zolpidem, Dextroamphetamine'),

```
(r10081', 'Loratadine'),
(r10082', 'Cyclobenzaprine'),
(r10083', 'Losartan, Amlodipine'),
(r10084', 'Azithromycin'),
(r10085', 'Doxycycline hyclate, Hydrochlorothiazide'),
(r10086', 'Acetaminophen'),
(r10087', 'Dextroamphetamine, Acetaminophen'),
(r10088', NULL),
(r10089', 'Amoxicillin'),
(r10090', 'Dextroamphetamine'),
(r10091', 'Fexofenadine, Losartan'),
(r10092', 'Benzonatate'),
(r10093', NULL),
(r10094', 'Acetaminophen, Fexofenadine, Amlodipine'),
(r10095', 'Torvastatin Calcium'),
(r10096', 'Cyclobenzaprine'),
(r10097', NULL),
(r10098', 'Ibuprofen, Benadryl'),
(r10099', 'Acetaminophen'),
(r10100', NULL);
```

Data Update/Delete:

```
DELETE FROM Prescription
WHERE Record_ID = 'r10073';

UPDATE Prescription
SET Medical_Record_Prescription = 'NULL'
WHERE Record_ID = 'r10093';
```

SQL query with commands and how they address the business questions w/ screenshots of query results:

1. Find the total number of Clients who are older than 50. List the Client's last name, the total amount of clients visiting for vaccinations, and status. Sort the result by client's age and client's last name in descending order.

```
SELECT Last_Name AS 'Client Last Name', SUM(Age) AS 'Total Age of Clients', Status
FROM Client
INNER JOIN Appointment
ON Client.Client_ID = Appointment.Client_ID
WHERE Visit_Description LIKE '%Vaccinations%'
AND Appointment.Status = 'Completed'
GROUP BY Last_Name
HAVING SUM(Age) > 50
ORDER BY Last_Name desc, SUM(Age) desc;
```

	Client Last Name	Total Age of Clients	Status
►	Phelps	64	completed
	Oconnell	62	completed
	Irwin	72	completed
	Craft	55	completed
	Chang	67	completed

This query pulls data pertaining to clients over the age of 50 that have had a vaccine appointment. Using this data, helps easily pull information for the doctors and employees to understand the clients who have the greatest risk in receiving a vaccine.

- Find clients that have an allergy with peanuts and seafood. List them by their last names, client email, and allergy. The columns should be displayed as Client, Email, and Allergy. Sort the result by the last names of the Client in ascending order.

```
SELECT Last_Name AS 'Client', Email, Medical_Record_Allergy AS 'Allergy'
FROM Client
INNER JOIN Medical_Record
ON Client.Client_ID = Medical_Record.Client_ID
INNER JOIN Allergy
ON Medical_Record.Record_ID = Allergy.Record_ID
WHERE Medical_Record_Allergy LIKE '%Peanut%'
OR Medical_Record_Allergy LIKE '%Seafood%'
ORDER BY Last_Name asc;
```


	Client	Email	Allergy
►	Bond	cosimo@msn.com	Seafood
	Clay	jandrese@hotmail.com	Seafood
	Collins	yamla@comcast.net	Peanut
	Dale	SpenderDale123@yahoo.com,	Peanut
	Fleming	campware@hotmail.com	Peanut
	Flynn	bmidd@att.net	Pine, Peanut
	Ford	kostas@att.net	Peanut
	Harris	moinefou@optonline.net	Seafood
	Hoffman	oster@optonline.net	Peanut
	Hudson	HudsonTra11@gmail.com,	Peanut
	Ibarra	mfleming@mac.com	Peanut
	Kline	seurat@gmail.com	Peanut
	Oconnell	sthomas@verizon.net	Peanut
	Pecks	ian28@donnelly.com	Seafood
	Vaughan	inico@hotmail.com	Seafood
	Wade	Wade1114@yahoo.com,	Seafood
	Walker	Gwalker21@yahoo.com,	Peanut
	Weiss	unreal@verizon.net	Seafood

As the biggest business problem hospitals face is being able to interpret data in an organized way, this query helps demonstrate one of the simple ways an employee is able to grab data from a client's medical record to determine whether their risk to seafood or peanut allergies can be a liability to the hospital. It also helps assess whether a doctor in a dermatologist field can link certain allergies to the diagnosis of their reason to visit.

- For the clients that have appointments completed in June 2022, list the client's id, last names, visit description, date, and status. The columns should be displayed as the client_Id, last name, visit description, appointment date, and status. The appointment date should be ordered by descending.

```
SELECT Appointment.Client_ID, Last_Name AS 'Last Name', Visit_Description AS 'Visit
Description', Date AS 'Appointment Date', Status
FROM Client
INNER JOIN appointment
ON client.Client_ID = Appointment.client_ID
WHERE appointment.Date > '2022-06-01'
AND appointment.Date < '2022-06-30'
AND Status = 'completed'
ORDER BY date desc;
```

	Client_ID	Last Name	Visit Description	Appointment Da...	Status
►	c00023	Webber	infection	2022-06-23	completed
	c00086	Carlson	follow up appointment	2022-06-23	completed
	c00078	Crawford	allergies	2022-06-22	completed
	c00028	Sanders	chest pain	2022-06-21	completed
	c00073	Fleming	follow up appointment	2022-06-21	completed
	c00046	Herrera	annual checkup	2022-06-17	completed
	c00096	Roach	chest pain	2022-06-17	completed
	c00010	Simmons	vaccinations	2022-06-16	completed
	c00094	Hoffman	injury/sprain	2022-06-15	completed
	c00052	Weiss	annual checkup	2022-06-10	completed
	c00060	Mccarty	allergies	2022-06-10	completed
	c00002	Huber	chest pain	2022-06-05	completed

This query helps gather information of clients and their reasoning for visits within a timeframe of the month of June. The purpose of this query is to showcase how employees and doctors are able to access the type of visits that are the most frequent to further direct resources towards that specialty. It can also easily gather and interpret what months are going to be the busiest.

Annie

Table Structure:

Table: CLIENT						
Column	Description	Data Type	Length	Null	PK	FK
Client_ID	Client ID	char	6	NN	Y	
First_Name	Client first name	varchar	100	NN		
Last_Name	Client last name	varchar	100	NN		
Age	Client age	char	2			
Email	Client email	varchar	50			
Street	Client street address	varchar	30			
City	Client city	varchar	20			
State	Client state	char	2			
Zip	Client Zip Code	char	5			
Doctor_Employee_ID	Foreign key that	char	6	NN		DOCTOR(Doctor_E

	references the DOCTOR table					mployee_ID)
--	--------------------------------	--	--	--	--	-------------

Creating the Client table:

```
CREATE TABLE IF NOT EXISTS Client (
  Client_ID char(8) Not Null Primary Key,
  First_Name varchar(100) Not Null,
  Last_Name varchar(100) Not Null,
  Age char(2),
  Email varchar(50),
  Street varchar(30),
  City varchar(20),
  State char(2),
  Zip char(5),
  doctor_employee_ID char(8) not null references DOCTOR(Employee_ID)
);
```

Inserting Client data:

```
INSERT INTO client (client_id, first_name, last_name, age, email, street, city, state, zip,
doctor_employee_id) VALUES
('c00001', 'Amy', 'Lopez', 29, 'Amylopez@gmail.com', '6103 Rainbow Way', 'Las Vegas', 'NV', 89145,
'd00001'),
('c00002', 'Sharon', 'Huber', 22, 'SharonHuber37@yahoo.com', '4292 Folly Lane', 'San Diego', 'CA',
98770, 'd00002'),
('c00003', 'Craig', 'Cervantes', 35, 'Craigcervantes1@yahoo.com', '1882 Carr Street', 'Henderson', 'NV',
89102, 'd00003'),
('c00004', 'April', 'Hood', 19, 'AprilHood189@gmail.com', '6272 Lime Lane', 'Salt Lake', 'UT', 47191,
'd00004'),
('c00005', 'Lucy', 'Heartfilia', 23, 'lucyheartfilia@hotmail.com', '4000 Fairytail Way', 'Manhattan', 'NY',
31072, 'd00005'),
('c00006', 'Dana', 'Murphy', 26, 'Dananamurphy@live.com', '1381 Coronation Ave', 'Plano', 'TX',
32791, 'd00006'),
('c00007', 'Randy', 'Chang', 67, 'Randychang@gmail.com', '9010 Oxford Road', 'Rex', 'GA', 30273,
'd00007'),
('c00008', 'Michael', 'Smith', 26, 'Michaelsmith666@yahoo.com', '6039 Creekview Ct', 'Iowa Falls', 'IA',
50126, 'd00008'),
('c00009', 'Daniel', 'Kelley', 45, 'Danielkelley01@gmail.com', '1005 Kek Ave', 'Herkimer', 'NY', 13350,
'd00009'),
('c00010', 'Christine', 'Simmons', 24, 'Thechristinesimmons9@gmail.com', '7150 Ditch Road',
'Chesaning', 'MI', 48616, 'd00010'),
('c00011', 'Katheryn', 'Wood', 28, 'WoodsKatheryn@hotmail.com', '1178 Gucci Road', 'Boiling Springs',
'TN', 37150, 'd00011'),
('c00012', 'Travis', 'Hudson', 31, 'HudsonTra11@gmail.com', '1792 Medica Dr', 'Dresser', 'WI', 54009,
'd00012'),
('c00013', 'Alexander', 'Wade', 47, 'Wade1114@yahoo.com', '5633 Styron Road', 'Oriental', 'NC', 28571,
'd00013'),
('c00014', 'Heather', 'Knox', 22, 'HeatherKnox4@yahoo.com', '9242 Park St', 'Bellflower', 'CA', 90706,
```

'd00014'),
('c00015', 'Spencer', 'Dale', 34, 'SpenderDale123@yahoo.com,', '1948 Information Ave', 'Tampa', 'FL', 33612, 'd00015'),
('c00016', 'Andrew', 'Valdez', 21, 'AndrewValdex8889@hotmail.com,', '1777 Todd Road', 'Petersburg', 'MI', 49270, 'd00016'),
('c00017', 'Josie', 'Rhino', 29, 'JosieRhino123@gmail.com,', '6789 Sequel Street', 'Data Springs', 'CA', 97008, 'd00017'),
('c00018', 'Abigayle', 'Quicho', 25, 'Abigaylequicho123@gmail.com,', '1449 Smarty Ct', 'University Dr', 'NY', 13351, 'd00018'),
('c00019', 'Evan', 'Horowitz', 42, 'Horowitzevan112@live.com,', '3099 Systems Way', 'Berryville', 'AR', 72616, 'd00019'),
('c00020', 'Annie', 'Luo', 28, 'Annieluo123@gmail.com,', '9876 Springroll Ave', 'Ditto', 'HI', 90144, 'd00020'),
('c00021', 'Melanie', 'Sims', 19, 'Melaniesims81@gmail.com,', '4288 Kirkland Road', 'Childersburg', 'AL', 35044, 'd00021'),
('c00022', 'Celina', 'Hong', 69, 'Celinahong299@gmail.com,', '4189 Balenciaga Street', 'Beverly Hills', 'CA', 90027, 'd00022'),
('c00023', 'Dwane', 'Webber', 22, 'WebberD11@yahoo.com,', '1751 Barbeque Ct', 'Berryville', 'AR', 72616, 'd00023'),
('c00024', 'Genesis', 'Walker', 25, 'Gwalker21@yahoo.com,', '1914 Lambo Way', 'San Diego', 'CA', 90017, 'd00024'),
('c00025', 'Brian', 'Miller', 32, 'BrianM1@live.com,', '1779 Mafia Dr', 'Tampa', 'FL', 33612, 'd00025'),
('c00026', 'Sandra', 'Cooper', 18, 'SandraCooper1@gmail.com,', '5682 Goosebump Road', 'Anaheim', 'CA', 90013, 'd00026'),
('c00027', 'Diana', 'Zhang', 26, 'Zhangdiana4@yahoo.com,', '8813 Weekend Road', 'Plano', 'TX', 32791, 'd00027'),
('c00028', 'Ryan', 'Sanders', 77, 'Ryansanders2@gmail.com,', '1894 Watercreek Way', 'San Diego', 'CA', 90027, 'd00028'),
('c00029', 'Elon', 'Musk', 69, 'theelonmusk@gmail.com,', '9696 Corporate Dr', 'Dallas', 'TX', 48051, 'd00029'),
('c00030', 'Steve', 'Jobs', 58, 'Stevejobs@apple.com,', '1627 Apple Street', 'Manhattan', 'NY', 13341, 'd00030'),
('c00031', 'Ash', 'Ketchup', 24, 'ashketchup@gmail.com,', '4179 Catchem Road', 'Anaheim', 'CA', 90013, 'd00031'),
('c00032', 'Haider', 'Haines', 26, 'HeiderH15@gmail.com,', '1974 Patrick Ave', 'Maryville', 'TN', 37804, 'd00032'),
('c00033', 'Gavin', 'Craft', 55, 'Craftgavin00@live.com,', '8810 Pineapple Pizza Dr', 'Wales', 'MA', 01081, 'd00033'),
('c00034', 'Tasha', 'Delacruz', 25, 'tasha42@yahoo.com,', '9901 Walnut Street', 'Hillsboro', 'OR', 97123, 'd00034'),
('c00035', 'Zhane', 'Barclay', 18, 'Zhaneb18@gmail.com,', '1911 Noodles Dr', 'Eva', 'AL', 35621, 'd00035'),
('c00036', 'Fynn', 'Kaur', 71, 'mrfinkaur17@gmail.com,', '8891 Commerce St', 'Jackson', 'AL', 36545, 'd00036'),
('c00037', 'Hareem', 'Xiong', 29, 'Xiong189@yahoo.com,', '4378 Fishing Way', 'San Diego', 'CA', 90027, 'd00037'),
('c00038', 'Aria', 'Li', 22, 'Liarial11@live.com,', '7191 Pomeranian Dr', 'Berryville', 'AR', 72616, 'd00038'),
('c00039', 'David', 'Ball', 31, 'balldavid7@yahoo.com,', '5990 Washington Road', 'Ithaca', 'MI', 48847, 'd00039'),

('c00040', 'Keith', 'Pham', 47, 'Keithpham@live.com,', '2795 Applegrove St', 'Orlando', 'FL', 33950, 'd00040'),
 ('c00041', 'Debbie', 'Collins', 21, 'Debbie181@gmail.com,', '1441 Orchid Way', 'Las Vegas', 'NV', 89145, 'd00041'),
 ('c00042', 'Jennifer', 'Page', 88, 'jenniferpage77@gmail.com,', '7891 Pecanpie Way', 'Hiloboro', 'MO', 63050, 'd00042'),
 ('c00043', 'Loretta', 'Vazquez', 58, 'lorettauu@gmail.com,', '1895 Hollow Dr', 'Herkimer', 'NY', 13350, 'd00043'),
 ('c00044', 'Naruto', 'Uzumaki', 25, 'naruto@gmail.com,', '1329 Hokage Ct', 'Iowa Falls', 'IA', 50126, 'd00044'),
 ('c00045', 'Joseph', 'Steele', 21, 'Steeler20@gmail.com,', '1984 Conspiracy Road', 'Tampa', 'FL', 33612, 'd00045'),
 ('c00046', 'Cynthia', 'Herrera', 32, 'Cynthiaherrera@yahoo.com,', '1725 Vineyard Way', 'Honolulu', 'HI', 90143, 'd00046'),
 ('c00047', 'Heather', 'Wong', 57, 'Wongheather@hotmail.com,', '1642 Washington Street', 'University Dr', 'NY', 13351, 'd00047'),
 ('c00048', 'Jessica', 'Roberts', 49, 'robertsjessica@hotmail.com,', '9009 Utopia Way', 'Data Springs', 'CA', 97008, 'd00048'),
 ('c00049', 'Charles', 'Colon', 38, 'charlesc1@gmail.com,', '6772 Poodles Ct', 'Rex', 'GA', 30273, 'd00049'),
 ('c00050', 'Sylvia', 'Villanueva', 31, 'villaneva12@gmail.com,', '9996 Illuminati Dr', 'Boiling Springs', 'TN', 37150, 'd00050'),
 ('c00051', 'Dawson', 'Collins', '18', 'yamla@comcast.net', '7022 Lowland Row', 'Lawrence', 'KS', '72733', 'd00001'),
 ('c00052', 'Marlie', 'Weiss', '23', 'unreal@verizon.net', '2782 Aviation Passage', 'Allentown', 'PA', '59928', 'd00002'),
 ('c00053', 'Nylah', 'Kemp', '61', 'alias@optonline.net', '2859 Orchard Passage', 'Troy', 'MI', '29739', 'd00003'),
 ('c00054', 'Heath', 'Kennedy', '79', 'murty@icloud.com', '1044 Blessing Route', 'Fort Lauderdale', 'FL', '61786', 'd00004'),
 ('c00055', 'Ben', 'Bond', '23', 'cosimo@msn.com', '1804 Crescent Way', 'Lexington', 'KY', '61584', 'd00005'),
 ('c00056', 'Hazel', 'Flynn', '20', 'bmidd@att.net', '4780 Storm Rrow', 'Tucson', 'AZ', '13842', 'd00006'),
 ('c00057', 'Shyanne', 'Watson', '53', 'william@verizon.net', '4114 North Route', 'College Station', 'TX', '43436', 'd00007'),
 ('c00058', 'Korbin', 'Duarte', '27', 'bryanw@me.com', '9008 Orchid Avenue', 'Kent', 'WA', '12387', 'd00008'),
 ('c00059', 'Johanna', 'Kline', '74', 'seurat@gmail.com', '1804 Broom Road', 'Richland Hills', 'TX', '34700', 'd00009'),
 ('c00060', 'Carlie', 'McCarty', '51', 'teverett@sbcglobal.net', '1804 Vista Lane', 'Fremont', 'CA', '36796', 'd00010'),
 ('c00061', 'Kasen', 'Phelps', '64', 'eabrown@yahoo.com', '1182 Snowflake Street', 'Logan', 'UT', '94856', 'd00011'),
 ('c00062', 'Jasmin', 'Clay', '21', 'jandrese@hotmail.com', '5124 Musem Lane', 'Lake Forest', 'CA', '93474', 'd00012'),
 ('c00063', 'Jabari', 'Ayala', '48', 'ajohnson@optonline.net', '1784 Walnut Road', 'Carlsbad', 'CA', '23863', 'd00013'),
 ('c00064', 'Eve', 'Hamilton', '25', 'laird@optonline.net', '8571 Lilypad Road', 'Friendswood', 'TX', '84721', 'd00014'),

('c00065', 'Iliana', 'Hodges', '34', 'birddog@yahoo.com', '5711 Vale Lane',
 'Campbell', 'CA', '23138', 'd00015'),
 ('c00066', 'Malachi', 'Velazquez', '68', 'tsuruta@aol.com', '6710 Crook Street',
 'Almonte Springs', 'FL', '56497', 'd00016'),
 ('c00067', 'Valery', 'Webster', '56', 'lcheng@hotmail.com', '2175 Market Lane',
 'Tulare', 'CA', '32825', 'd00017'),
 ('c00068', 'Isabella', 'Vaughan', '29', 'inico@hotmail.com', '6701 Justice Route',
 'Mansfield', 'OH', '13347', 'd00018'),
 ('c00069', 'Heidy', 'Burgess', '45', 'sharon@hotmail.com', '6713 Nightingale
 Way', 'Summerville', 'SC', '31395', 'd00019'),
 ('c00070', 'Jaylyn', 'Lowery', '38', 'fudrucker@mac.com', '8914 Feathers Way',
 'Fremont', 'CA', '69255', 'd00020'),
 ('c00071', 'Maddison', 'Banks', '66', 'ralamosm@aol.com', '6720 Summit Street',
 'Barnstable Town', 'MA', '37571', 'd00021'),
 ('c00072', 'Leslie', 'Sosa', '20', 'heroine@outlook.com', '5810 Luna Runa',
 'Independence', 'MO', '65731', 'd00022'),
 ('c00073', 'Jaylen', 'Fleming', '53', 'campware@hotmail.com', '6819 Lotus
 Avenue', 'Port St. Lucie', 'FL', '21640', 'd00023'),
 ('c00074', 'Mitchell', 'Savage', '77', 'psharpe@gmail.com', '3192 Sapphire Way',
 'Mobile', 'AL', '91792', 'd00024'),
 ('c00075', 'Jayvion', 'Montgomery', '50', 'chrwin@gmail.com', '5197 Yew Row',
 'Springfield', 'MA', '41773', 'd00025'),
 ('c00076', 'Sienna', 'Summers', '34', 'giafly@live.com', '6710 Mill Avenue',
 'Rocky Mount', 'NC', '38213', 'd00026'),
 ('c00077', 'Austin', 'Ruiz', '18', 'kingma@optonline.net', '1480 Anchor Route',
 'Chesterfield', 'MO', '50773', 'd00027'),
 ('c00078', 'Maia', 'Crawford', '77', 'valdez@verizon.net', '1315 Farmer Street',
 'Idaho Falls', 'ID', '62127', 'd00028'),
 ('c00079', 'Madilynn', 'Garrison', '49', 'markjugg@msn.com', '5221 Sunshine Lane',
 'Champaign', 'IL', '73419', 'd00029'),
 ('c00080', 'Quinton', 'Werner', '35', 'greear@live.com', '6801 Popular Street',
 'Wilmington', 'DE', '89155', 'd00030'),
 ('c00081', 'Ariella', 'Ford', '62', 'kostas@att.net', '6788 Town Drive',
 'Wheaton', 'IL', '64336', 'd00031'),
 ('c00082', 'Donovan', 'Willis', '25', 'rbarreira@verizon.net', '8913 Prince Passage',
 'Blaine', 'MN', '53050', 'd00032'),
 ('c00083', 'Frida', 'Oconnell', '62', 'stthomas@verizon.net', '5701 Bright Street',
 'Kenosha', 'WI', '10114', 'd00033'),
 ('c00084', 'Adan', 'Arroyo', '46', 'miltchev@hotmail.com', '6801 Cavern Lane',
 'Janesville', 'WI', '56752', 'd00034'),
 ('c00085', 'Jillian', 'Harris', '55', 'moinefou@optonline.net', '6701
 Highland Street', 'Wilkes-Barre', 'PA', '37614', 'd00035'),
 ('c00086', 'Craig', 'Carlson', '62', 'mleary@yahoo.ca', '6512 Copper Avenue',
 'Chelsea', 'MA', '90737', 'd00036'),
 ('c00087', 'Israel', 'Peck', '18', 'barlow@comcast.net', '9841 Golden Way', 'Pasco', 'WA',
 '47309', 'd00037'),
 ('c00088', 'Alvaro', 'Kim', '44', 'dbrobins@hotmail.com', '8178 King Street',
 'Worcester', 'MA', '71846', 'd00038'),
 ('c00089', 'Cory', 'Chambers', '75', 'gfxguy@mac.com', '8013 Arcade Route',
 'Lancaster', 'CA', '16907', 'd00039'),

```
( 'c00090',      'Bryant',      'Burton',      '68',      'research@hotmail.com',      '6801
Commercial Lane',      'Kansas City',      'KA',      '38301',      'd00040'),
( 'c00091',      'Kieran',      'Rubio',      '76',      'rnelson@live.com',      '7801 Senna Passage',
'Fallon',      'MO',      '65908',      'd00041'),
( 'c00092',      'Frank',      'Ibarra',      '53',      'mfleming@mac.com',      '7819 Silver Street',      'Utica',      'NY',
'59231',      'd00042'),
( 'c00093',      'Janet',      'Henson',      '22',      'novanet@outlook.com',      '6701 Haunted Ct',
'Ventura',      'CA',      '57295',      'd00043'),
( 'c00094',      'Juliana',      'Hoffman',      '30',      'oster@optonline.net',      '6669 Twitter Way',
'Wilmington',      'DE',      '32556',      'd00044'),
( 'c00095',      'Barrett',      'Wood',      '40',      'lipeng@att.net',      '6701 Moon Steet',      'Eden
Prairie',      'MO',      '13045',      'd00045'),
( 'c00096',      'Kenna',      'Roach',      '42',      'shang@icloud.com',      '3394 Sunnyville Ct',
'Rocklin',      'CA',      '26243',      'd00046'),
( 'c00097',      'Amara',      'Davies',      '79',      'dkeeler@yahoo.ca',      '8912 Berry Dr',
'Moline',      'IL',      '87070',      'd00047'),
( 'c00098',      'Jaxon',      'Bentley',      '54',      'makarow@sbcglobal.net',      '1850 Nova Lane',
'Hempstead',      'NY',      '70248',      'd00048'),
( 'c00099',      'Dania',      'Irwin',      '72',      'ahuillet@mac.com',      '6791 Coin Way',      'Corona',
'CA',      '92650',      'd00049'),
( 'c00100',      'Roxanna',      'Pecks',      '73',      'ian28@donnelly.com',      '1859 Shadows Street',
'College Station',      'TX',      '10545',      'd00050');
```

Data Update/Delete:

```
DELETE FROM Client
WHERE Record_ID = 'r10029';

UPDATE Client
SET First_Name = 'Jenna'
WHERE Client_ID = 'c10096';
```

SQL query with commands and how they address the business questions w/ screenshots of query results:

1. Retrieve client last name and visit description who reside in the state of CA. The columns should be displayed as Client and Visit Description. Sort the result by the last names of the client in descending order.descending.

```
SELECT Last_name as 'CLient', visit_description as 'Visit Description'
FROM client
INNER JOIN appointment
ON appointment.client_id = client.client_id
INNER JOIN medical_record
ON medical_record.client_id = client.client_id
WHERE state = 'CA'
ORDER BY last_name desc;
```

	Client	Visit Description
►	Chambers	follow up appointment
	Clay	annual checkup
	Cooper	COVID
	Henson	annual physical
	Hodges	follow up appointment
	Hong	follow up appointment
	Huber	chest pain
	Irwin	vaccinations
	Ketchup	annual physical
	Knox	follow up appointment
	Lowery	infection
	Mccarty	allergies
	Rhino	annual checkup
	Roach	chest pain
	Roberts	COVID
	Sanders	chest pain
	Walker	vaccinations
	Webster	infection
	Xiong	chest pain
Result 10 ×		

This query helps gather information of clients and the reason of the doctor visit for clients who live in California. The purpose of this query helps address the business problem because the employees can easily look up the data of clients that live in California, as well as instantly getting the description of the reason for visiting the doctor.

2. Retrieve the client email and date where appointment status is canceled between June 1, 2022 and December 31, 2022. Sort the result by email in ascending order.

```
SELECT client.email, date
FROM client
INNER JOIN appointment
ON appointment.client_id = client.client_id
WHERE status = 'cancelled'
AND date between '2022-06-01' and '2022-12-31'
ORDER BY email asc;
```

	email	date
►	Gwalker21@yahoo.com,	2022-09-21
	Horowitzevan112@live.com,	2022-07-24
	jenniferpage77@gmail.com,	2022-08-08
	mrfinkaur17@gmail.com,	2022-06-13
	naruto@gmail.com,	2022-06-15
	psharp@gmail.com	2022-09-22

This query helps gather information on client emails so they can be contacted if their appointment was canceled between June 1 and December 31, 2022. This gives the employees insight for the clients that have their appointments canceled so they can help reschedule for a different day. The emails are sorted in ascending order to keep track of the emails in alphabetical order to make it easier to contact the clients.

3. Retrieve distinct last names of clients who have a family history of Mad Cow Disease or allergic to Pollen.

```
SELECT DISTINCT Last_Name AS 'Client'
FROM Client
INNER JOIN Medical_Record
ON Client.Client_ID = Medical_Record.Client_ID
INNER JOIN Allergy
ON Medical_Record.Record_ID = Allergy.Record_ID
WHERE family_history = 'Mad Cow Disease'
OR Medical_Record_Allergy = 'Pollen';
```

	Client
▶	Luo
	Haines
	Phelps
	Carlson
	Peck
	Kim

This query helps gather information of clients and their family history of Mad Cow Disease or allergic to Pollen. This can give insight for the employees and doctors trying to figure out if Pollen is correlated to Mad Cow Disease and its family history. This is also relevant when doctors are trying to diagnose clients.

Evan

Table Structure:

Table: MEDICAL_RECORD						
Column	Description	Data type	Length	Null	PK	FK
Family_History	Patients Family History	varchar	100			
Gender	Patients Gender	char	1			
DOB	Patients Date of Birth	date				
Record_ID	Unique ID assigned to patient record	char	6	NN	Y	
Client_ID	Clients ID	char	6	NN		CLIENT(Client_ID)
Doctor_Employee_ID	Doctor ID	char	6	NN		DOCTOR(Doctor_Employee_ID)
Employee_Employee_ID	Employee ID	char	6	NN		EMPLOYEE(Employee_Employee_ID)

Creating the Medical Record table:

```
CREATE TABLE IF NOT EXISTS Medical_Record (  
  Family_History varchar(100),  
  Gender varchar(1),  
  DOB date,  
  Record_ID char(6) NOT NULL PRIMARY KEY ,  
  Client_ID char(6) not null references CLIENT(Client_ID),  
  Doctor_Employee_ID char (6),  
  Employee_Employee_ID char (6)  
);
```

Inserting Medical Record data:

```
INSERT INTO Medical_Record (Family_History, Gender, DOB, Record_ID, Client_ID,  
Employee_Employee_ID, Doctor_Employee_ID) VALUES  
( 'Mental Illness', 'F', '2001-01-28', 'r10001', 'c00001', 'e00035',
```

'd00005'),
 ('Heart Disease','M', '1980-04-11', 'r10002', 'c00002', 'e00009', 'd00009'),
 (NULL,'F', '1981-09-14', 'r10003', 'c00003', 'e00036', 'd00020'),
 ('Mad Cow Disease,Heart Disease', 'M', '1977-02-04', 'r10004', 'c00004',
 'e00036', 'd00031'),
 (NULL,'F', '1977-05-25', 'r10005', 'c00005', 'e00036', 'd00021'),
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 ('Liver Disease', 'M', '1967-08-13', 'r10070', 'c00070', 'e00015', 'd00049'),
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 ('Asthma', 'M', '2003-12-23', 'r10077', 'c00077', 'e00033', 'd00032'),
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 'd00008'),
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(NULL,'F',      '1997-01-13',  'r10083',      'c00083',      'e00020',      'd00025'),
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('Heart Disease,Cancer', 'M',      '2005-06-03',  'r10085',      'c00085',      'e00034',
'd00030'),
('Mad Cow Disease',   'F',      '2001-03-21',  'r10086',      'c00086',      'e00023',
'd00040'),
('Mad Cow Disease',   'F',      '1975-12-01',  'r10087',      'c00087',      'e00020',
'd00044'),
('Liver Disease, Mental Illness', 'F',      '1991-03-03',  'r10088',      'c00088',      'e00048',
'd00023'),
(NULL,'M',      '1969-08-30',  'r10089',      'c00089',      'e00014',      'd00003'),
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(NULL,'F',      '1973-03-13',  'r10091',      'c00091',      'e00020',      'd00031'),
(NULL,'F',      '1995-11-15',  'r10092',      'c00092',      'e00006',      'd00048'),
('Alzheimers',   'F',      '1997-04-20',  'r10093',      'c00093',      'e00020',      'd00026'),
('Alzheimers',   'M',      '1981-03-18',  'r10094',      'c00094',      'e00047',      'd00006'),
('Heart Disease,Liver Disease,Cancer', 'F',      '1975-02-01',  'r10095',      'c00095',
'e00022',      'd00047'),
('Asthma',       'M',      '2003-04-16',  'r10096',      'c00096',      'e00008',      'd00029'),
('Diabetes',     'F',      '1990-01-04',  'r10097',      'c00097',      'e00013',      'd00004'),
(NULL,'F',      '2004-07-01',  'r10098',      'c00098',      'e00047',      'd00021'),
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```

Data Update/Delete:

```

DELETE FROM Medical_Record
WHERE Record_ID = 'r10003';

UPDATE Medical_Record
SET Family_History = 'Heart Disease, Mad Cow Disease'
WHERE Record_ID = 'r10086';

```

SQL query with commands and how they address the business questions w/ screenshots of query results:

1. Retrieve all clients whose medical records contain a family history of Heart Disease.

```

SELECT client.first_name, client.last_name
FROM client

```

```
INNER JOIN medical_record
ON medical_record.Client_ID = client.client_ID
WHERE Family_History LIKE '%Heart Disease%';
```

	First Name	Last Name
▶	Sharon	Huber
	April	Hood
	Dwane	Webber
	Genesis	Walker
	Dawson	Collins
	Ben	Bond
	Jasmin	Clay
	Malachi	Velazquez
	Ariella	Ford
	Jillian	Harris
	Barrett	Wood

This query helps to obtain the information of clients who have a family history of Heart Disease. This queries purpose is to allow doctors to quickly pull up this relevant information for help when diagnosing and treating patients.

- Retrieve the names and email addresses of all clients whose medical records contain a prescription for Ibuprofen. Sort the data by first name alphabetical order.

```
SELECT client.first_name AS 'First Name', client.last_name AS 'Last Name', client.email AS 'Email Address'
FROM client
LEFT OUTER JOIN medical_record
ON medical_record.client_Id = client.client_ID
INNER JOIN prescription
ON prescription.record_id = medical_record.record_ID
WHERE prescription.Medical_Record_prescription LIKE '%Ibuprofen%'
ORDER BY client.first_name ASC;
```

	First Name	Last Name	Email Address
▶	Charles	Colon	charlesc1@gmail.com,
	Craig	Cervantes	Craigcervantes1@yahoo.com,
	Genesis	Walker	Gwalker21@yahoo.com,
	Jaxon	Bentley	makarow@sbcglobal.net
	Jennifer	Page	jenniferpage77@gmail.com,
	Johanna	Kline	seurat@gmail.com
	Tasha	Delacruz	tasha42@yahoo.com,
	Travis	Hudson	HudsonTra11@gmail.com,

This query searches the client's medical records for people who contain a current Ibuprofen prescription, prescribed by the office. It then grabs their email addresses and names in order for the doctor's office to send email notifications to each person about refilling their prescription. It could also be used to gather the total number of people that currently have an ibuprofen prescription, so the office knows how much to order, or the doctor can avoid certain conflicting medications when working with one of those clients.

3. Select all female clients first and last name whose age is older client Iliana Hodges. Show their first name, last name, and age.

```
SELECT client.first_name AS 'First Name', client.last_name AS 'Last Name', client.age AS 'Age'
FROM client
INNER JOIN medical_record
ON medical_record.Client_ID = client.client_ID
WHERE medical_record.Gender = 'F'
AND client.Age > (SELECT Age
FROM client
WHERE Client.first_name LIKE 'Iliana'
AND client.last_name LIKE 'Hodges')
ORDER BY Age Asc;
```

This query searches the client base for all clients who are older than the specific client Iliana Hodges. It was created and used because a doctor may find a specific or new disease in Iliana, and in order to check and verify that older ages are susceptible to the disease....