



Department of Computer Science and Engineering

Course Code: CSE 212

Course Title: **Database Management System**

Database Management System Project

Assigned By : Alif Ruslan, Lecturer, UAP

Date of Submission : 05 - 12 - 2024

SUBMITTED BY :

Student Name	Registration No
Bivas Nandan Debnath	22201256
MD. Sirajus Salekin	22201268
Nazim Uddin Asif	22201271

Hospital Management System

Hospital Management System is a database management system that helps us to maintain and manage hospital activities, including patient registration, appointment scheduling, medical recordkeeping, billing. This management system helps us to improve the coordination among departments, improved patient care and communication between nurses and doctors. This approach minimizes manual or human errors, reduces paperwork, and gives us real-time access to patient and hospital data. Each of the tables or relations in the system helps or works in the favor of enhanced productivity, ensuring easy access to data whenever needed. It is easy to use and handle even for someone who isn't too familiar with technology. This management system helps with :

- **Enhanced Patient Care and Monitoring**

1. The admissions, appointments, and assigned_nurse tables facilitate patient monitoring from initial appointments to in-patient treatment.
2. Data from tests, prescriptions, and procedures are used to create tailored treatment plans that include accurate documentation of patient histories and medical treatments.

- **Improved Resource Management**

1. The room and floor tables enable appropriate allocation of hospital infrastructure, ensuring that rooms and services are used efficiently.
2. The doctors' and departments' tables facilitate effective scheduling and assignment of healthcare workers based on expertise.

- **Accurate financial tracking**

1. The billing table centralizes all financial transactions, which reduces payment processing errors and improves financial transparency.
2. Cost information in the procedures, tests, and medication tables ensures accurate billing and patient knowledge of treatment costs.

- **Comprehensive Record-Keeping**

Historical data on individual_patient_tests, procedures, and medication can be used to track patients' health over time and make more informed clinical decisions.

We must have a Hospital Management System to make health care much simpler, faster, and more dependable for all. It allows people to receive the care they require without the inconvenience of lengthy paperwork or scheduling complications. It makes it easier for doctors and staff/nurses to manage appointments, maintain track of patient records, and ensure that billing is running smoothly.

In short, it's about saving time, eliminating errors, and focusing on what's truly important: providing great treatment and making the hospital experience less stressful for both patients and caregivers.

Tables and Entities :

To make this database system a success, we have used a few tables to work through the system. They are

1. Patients

- **patient_id** (PK)
- **first_name, last_name, date_of_birth, gender, contact_number, email, address, emergency_contact, blood_group**
- **Primary Entity:** Represents individual patients in the hospital. This table holds key information such as personal details, contact information, and medical history for each patient.

2. Departments

- **floor_no** (PK)
- **dept_name** (PK)
- **about**
- **Primary Entity:** Represents hospital departments such as cardiology, orthopedics, etc., and details about each department's services.

3. Doctors

- **doc_id** (PK)
- **doc_name, specialty, post, degree, floor_no, attending_external_hospital**
- **Foreign Key:** **floor_no** references **floors.floor_no**
- **Primary Entity:** Doctors are linked to specific departments and floors in the hospital. The table includes detailed professional data like specialty, qualifications, and post.

4. Floors

- **floor_no** (PK)
- **floor_service**
- **Primary Entity:** Represents the floors in the hospital and the services provided on each floor.

5. Nurses

- **nurse_id** (PK)
- **nurse_name, department, contact_number, email, hire_date, floor_no**

- **Foreign Key:** `floor_no` references `floors.floor_no`
- **Primary Entity:** This table stores information about nurses, including their assigned departments and floors in the hospital.

6. Room

- `room_id` (PK)
- `room_number`, `floor_no`, `room_type`, `room_status`, `patient_id`, `admission_date`, `discharge_date`, `cost_per_day`
- **Foreign Key:** `floor_no` references `floors.floor_no`
- **Foreign Key:** `patient_id` references `patients.patient_id`
- **Primary Entity:** Represents rooms in the hospital, linked to a patient's stay. It includes information about room status, type, cost per day, and patient admission details.

7. Appointments

- `appointment_id` (PK)
- `patient_id`, `doc_id`, `appointment_date`, `appointment_time`, `reason_for_visit`, `appointment_status`
- **Foreign Key:** `patient_id` references `patients.patient_id`
- **Foreign Key:** `doc_id` references `doctors.doc_id`
- **Primary Entity:** Records scheduled appointments between patients and doctors, including date, time, and the reason for visit.

8. Admissions

- **admission_id** (PK)
- **patient_id, floor_no, dept_name, admission_date, discharge_date, attending_doctor_id, admission_status**
- **Foreign Key:** **patient_id** references **patients.patient_id**
- **Foreign Key:** **floor_no** references **floors.floor_no**
- **Foreign Key:** **attending_doctor_id** references **doctors.doc_id**
- **Primary Entity:** This table tracks when a patient is admitted to the hospital, including the assigned doctor and department, as well as discharge details.

9. Assigned_nurse

- **assignment_id** (PK)
- **patient_id, nurse_id, room_id, shift_time, assignment_date, notes**
- **Foreign Key:** **patient_id** references **patients.patient_id**
- **Foreign Key:** **nurse_id** references **nurses.nurse_id**
- **Foreign Key:** **room_id** references **room.room_id**
- **Primary Entity:** Assigns nurses to specific patients and rooms, detailing shift times, assignments, and notes.

10. Tests

- **test_id** (PK)
- **test_name, dept_name, floor_no, test_type, cost**
- **Foreign Key:** **floor_no** references **floors.floor_no**

- **Primary Entity:** Represents medical tests performed in the hospital, linked to specific departments and floors.

11. Individual_patient_tests

- **test_record_id** (PK)
- **patient_id, test_id, test_date, test_result, test_status, assigned_doctor_id, cost**
- **Foreign Key:** patient_id references patients.patient_id
- **Foreign Key:** test_id references tests.test_id
- **Foreign Key:** assigned_doctor_id references doctors.doc_id
- **Primary Entity:** Stores records of tests done on individual patients, including test results, dates, and assigned doctors.

12. Medications

- **medication_id** (PK)
- **medication_name, dosage, medication_type, side_effects, cost**
- **Primary Entity:** Lists available medications with their dosage, type, side effects, and cost.

13. Prescriptions

- **prescription_id** (PK)
- **patient_id, appointment_id, doc_id, medication_id, dosage, start_date, end_date, instructions, cost**
- **Foreign Key:** patient_id references patients.patient_id
- **Foreign Key:** appointment_id references appointments.appointment_id

- **Foreign Key:** `doc_id` references **doctors.doc_id**
- **Foreign Key:** `medication_id` references **medications.medication_id**
- **Primary Entity:** Contains prescriptions made for patients, including medication details and dosage instructions.

14. Procedures

- **procedure_id** (PK)
- **procedure_name, dept_name, floor_no, procedure_type, cost**
- **Foreign Key:** `floor_no` references **floors.floor_no**
- **Primary Entity:** Represents medical procedures performed in the hospital, including type, cost, and which department/floor they belong to.

15. Patient_procedures

- **procedure_record_id** (PK)
- **patient_id, procedure_id, procedure_date, procedure_notes, assigned_doctor_id, procedure_status, cost**
- **Foreign Key:** `patient_id` references **patients.patient_id**
- **Foreign Key:** `procedure_id` references **procedures.procedure_id**
- **Foreign Key:** `assigned_doctor_id` references **doctors.doc_id**
- **Primary Entity:** Tracks procedures performed on patients, including procedure details, assigned doctors, and costs.

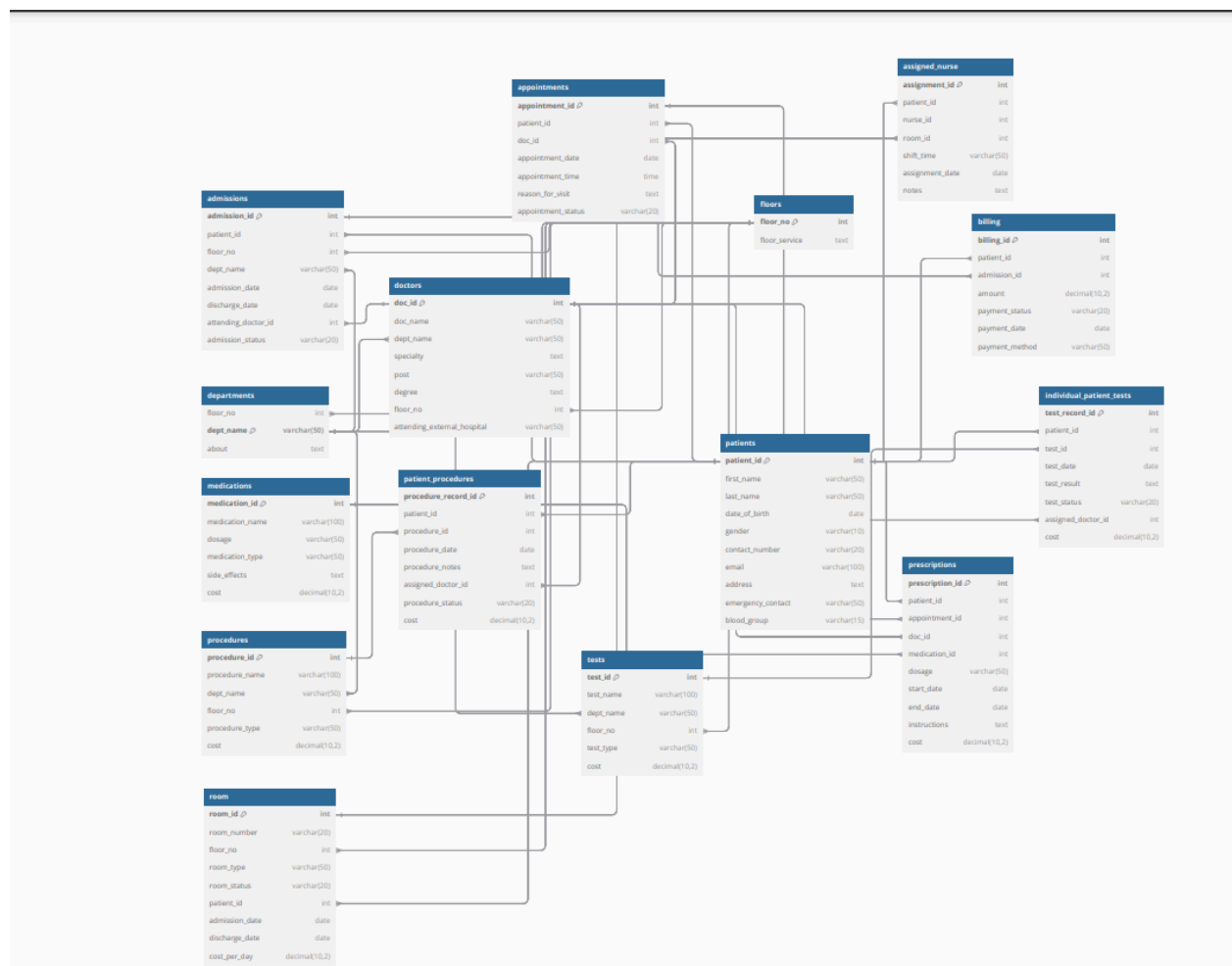
16. Billing

- **billing_id** (PK)
- **patient_id, admission_id, amount, payment_status, payment_date, payment_method**
- **Foreign Key:** patient_id references **patients.patient_id**
- **Foreign Key:** admission_id references **admissions.admission_id**
- **Primary Entity:** Handles billing for patients, including the amount, payment status, and method of payment.

ER DIAGRAM : Visually represents the relationships between key entities like patients, doctors, nurses, departments, rooms, and billing. It defines how data flows within the system, ensuring efficient management of patient care, admissions, appointments,

https://www.canva.com/design/DAGYoBY5K6E/Gm6adnnu40HCLwkRPIpv3Q/edit?utm_content=DAGYoBY5K6E&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Schema Diagram :



For better view, visit the link :

<https://dbdiagram.io/d/Hospital-Management-System-674f3526e9daa85aca885af6>

Queries : Let's start with something simple. Let's see all the information on every table.

1. Patients

SELECT * FROM FLOORS;

	patient_id	first_name	last_name	date_of_birth	gender	contact_number	email	address	emergency_contact	Blood_Group
▶	1	John	Doe	1985-07-12	Male	555-1234	john.doe@example.com	123 Elm St, Springfield	Jane Doe - 555-5678	A+
	2	Alice	Smith	1992-03-22	Female	555-2345	alice.smith@example.com	456 Oak St, Lincoln	Bob Smith - 555-6789	B+
	3	Bob	Johnson	1988-11-15	Male	555-3456	bob.johnson@example.com	789 Pine St, Shelbyville	Carol Johnson - 555-7890	O+
	4	Mary	Brown	1975-06-30	Female	555-4567	mary.brown@example.com	321 Maple St, Rivertown	David Brown - 555-8901	AB+
	5	Michael	Williams	1990-12-05	Male	555-5678	michael.williams@example.com	654 Birch St, Oakville	Sarah Williams - 555-9012	A-
	6	Emma	Jones	1983-09-17	Female	555-6789	emma.jones@example.com	987 Cedar St, Westfield	Tom Jones - 555-0123	B-
	7	James	Miller	2000-02-09	Male	555-7890	james.miller@example.com	543 Walnut St, Clearwater	Mary Miller - 555-1234	O-
	8	Olivia	Davis	1995-05-24	Female	555-8901	olivia.davis@example.com	234 Pine St, Maple City	John Davis - 555-2345	AB-
	9	William	Garcia	1993-01-11	Male	555-9012	william.garcia@example.com	765 Oak St, Springfield	Maria Garcia - 555-3456	A+
	10	Sophia	Martinez	1980-10-19	Female	555-0123	sophia.martinez@example.com	321 Birch St, Rivertown	Jose Martinez - 555-4567	B+
	11	David	Rodriguez	1996-07-08	Male	555-1234	david.rodriguez@example.com	234 Elm St, Lakewood	Laura Rodriguez - 555-5...	O+
	12	Isabella	Wilson	1982-04-02	Female	555-2345	isabella.wilson@example.com	876 Maple St, Pinehurst	Robert Wilson - 555-6789	AB+
	13	Joseph	Taylor	1978-08-15	Male	555-3456	joseph.taylor@example.com	123 Oak St, Hilltop	Karen Taylor - 555-7890	A-
	14	Charlotte	Moore	1998-12-22	Female	555-4567	charlotte.moore@example.com	765 Birch St, Springdale	William Moore - 555-8901	B-
	15	Ethan	Jackson	1987-09-28	Male	555-5678	ethan.jackson@example.com	432 Pine St, Oakwood	Emily Jackson - 555-9012	O-
	16	Amelia	Lee	2001-05-17	Female	555-6789	amelia.lee@example.com	567 Cedar St, Fairview	Paul Lee - 555-0123	AB-
	17	Alexander	Harris	1994-11-04	Male	555-7890	alexander.harris@example.com	890 Oak St, Lakeside	Nancy Harris - 555-1234	A+
	18	Mia	Clark	1991-02-18	Female	555-8901	mia.clark@example.com	234 Maple St, Clearwater	Steven Clark - 555-2345	B+
	19	Jacob	Lewis	1989-06-01	Male	555-9012	jacob.lewis@example.com	678 Pine St, Rivertown	Lily Lewis - 555-3456	O+
	20	Grace	Young	1993-08-12	Female	555-0123	grace.young@example.com	345 Oak St, Beachwood	John Young - 555-4567	AB+
	21	Daniel	Allen	1986-10-25	Male	555-1234	daniel.allen@example.com	123 Cedar St, Maplewood	Sandra Allen - 555-5678	A-
	22	Ella	Scott	1990-03-03	Female	555-2345	ella.scott@example.com	234 Walnut St, Greenfield	Michael Scott - 555-6789	B-
	23	Matthew	Adams	1981-04-18	Male	555-3456	matthew.adams@example.com	567 Birch St, Pinehill	Olivia Adams - 555-7890	O-
	24	Zoe	Baker	1992-07-07	Female	555-4567	zoe.baker@example.com	678 Maple St, Oak Valley	Paul Baker - 555-8901	AB-
	25	Luke	Gonzalez	1987-12-14	Male	555-5678	luke.gonzalez@example.com	789 Cedar St, Valleyview	Sophia Gonzalez - 555-9...	A+
	26	Lily	Nelson	1994-09-11	Female	555-6789	lily.nelson@example.com	890 Pine St, Springwood	David Nelson - 555-0123	B+
	27	Evan	Carter	1983-11-05	Male	555-7890	evan.carter@example.com	321 Oak St, Fairmont	Rachel Carter - 555-1234	O+
	28	Avery	Mitchell	1995-03-17	Female	555-8901	avery.mitchell@example.com	432 Birch St, Newtown	James Mitchell - 555-2345	AB+
	29	Jack	Perez	1980-01-09	Male	555-9012	jack.perez@example.com	543 Cedar St, Brookside	Olivia Perez - 555-3456	A-
	30	Megan	Roberts	1986-05-22	Female	555-0123	megan.roberts@example.com	654 Oak St, Hill Valley	Steven Roberts - 555-4567	B-
	31	Samuel	Gomez	1993-02-14	Male	555-1234	samuel.gomez@example.com	765 Birch St, Clearview	Linda Gomez - 555-5678	O-
	32	Natalie	Ward	1994-08-25	Female	555-2345	natalie.ward@example.com	876 Oak St, Pine Grove	John Ward - 555-6789	AB-
	33	Tyler	Morris	1981-11-30	Male	555-3456	tyler.morris@example.com	987 Cedar St, Westview	Emma Morris - 555-7890	A+
	34	Lillian	King	1990-06-05	Female	555-4567	lillian.king@example.com	234 Birch St, Roseville	Matthew King - 555-8901	B+
	35	Adam	Lopez	1992-10-21	Male	555-5678	adam.lopez@example.com	345 Maple St, Westfield	Elizabeth Lopez - 555-9012	O+
	36	Victoria	Hernandez	1988-01-28	Female	555-6789	victoria.hernandez@example....	456 Pine St, Central City	Luis Hernandez - 555-0123	AB+
	37	Henry	Foster	1983-12-19	Male	555-7890	henry.foster@example.com	567 Oak St, Greenfield	Maria Foster - 555-1234	A-
	38	Hailey	Cole	1995-07-04	Female	555-8901	hailey.cole@example.com	678 Cedar St, Hillside	Kevin Cole - 555-2345	B-
	39	Owen	Diaz	1990-11-03	Male	555-9012	owen.diaz@example.com	789 Pine St, Hillcrest	Sophia Diaz - 555-3456	O-
	39	Owen	Diaz	1990-11-03	Male	555-9012	owen.diaz@example.com	789 Pine St, Hillcrest	Sophia Diaz - 555-3456	O-
	40	Chloe	Bennett	1987-08-17	Female	555-0123	chloe.bennett@example.com	890 Oak St, Valleyview	Andrew Bennett - 555-4...	AB-
	41	Isaac	Mitchell	1984-09-09	Male	555-1234	isaac.mitchell@example.com	123 Cedar St, Oakwood	Margaret Mitchell - 555-5...	A+
	42	Abigail	Cameron	1991-05-06	Female	555-2345	abigail.cameron@example.com	234 Birch St, Glenwood	Richard Cameron - 555-6...	B+
	43	Charles	Walker	1980-02-13	Male	555-3456	charles.walker@example.com	432 Pine St, Oak Park	Nancy Walker - 555-7890	O+
	44	Layla	Gonzalez	1989-06-19	Female	555-4567	layla.gonzalez@example.com	543 Cedar St, Pine Ridge	Carlos Gonzalez - 555-8901	AB+
	45	Benjamin	Roberts	1992-09-22	Male	555-5678	benjamin.roberts@example.com	654 Oak St, Silverlake	Jessica Roberts - 555-9012	A-
	46	Madison	Phillips	1987-03-03	Female	555-6789	madison.phillips@example.com	765 Birch St, Clearfield	Jacob Phillips - 555-0123	B-
	47	Landon	Evans	1984-05-25	Male	555-7890	landon.evans@example.com	876 Oak St, Highland Park	Rachel Evans - 555-1234	O+
	48	Penelope	Perry	1996-02-10	Female	555-8901	penelope.perry@example.com	987 Cedar St, Lakewood	John Perry - 555-2345	AB+
	49	Elijah	Morris	1995-06-29	Male	555-9012	elijah.morris@example.com	543 Oak St, Greenfield	Sophia Morris - 555-3456	A+
	50	Scarlett	Miller	1990-07-21	Female	555-0123	scarlett.miller@example.com	234 Cedar St, Riverwood	Liam Miller - 555-4567	B+
	51	Jackson	Wright	1993-09-11	Male	555-1234	jackson.wright@example.com	432 Oak St, Brookfield	Laura Wright - 555-5678	O-
	52	Emily	King	1987-02-08	Female	555-2345	emily.king@example.com	543 Birch St, Sunshine Val...	Thomas King - 555-6789	AB-
	53	Gabriel	Adams	1990-03-14	Male	555-3456	gabriel.adams@example.com	765 Oak St, Hillside	Elizabeth Adams - 555-7...	A+
	54	Chloe	Hill	1996-01-17	Female	555-4567	chloe.hill@example.com	876 Cedar St, Maple Park	Patrick Hill - 555-8901	B+
	55	Isaiah	Walker	1992-10-13	Male	555-5678	isaiah.walker@example.com	987 Oak St, Sunnydale	Jessica Walker - 555-9012	O+
	56	Layla	Bennett	1990-05-19	Female	555-6789	layla.bennett@example.com	123 Pine St, Westbrook	David Bennett - 555-0123	AB+
	57	Mason	Graham	1984-11-29	Male	555-7890	mason.graham@example.com	234 Cedar St, Clearview	Laura Graham - 555-1234	A-
	58	Lily	Foster	1986-09-16	Female	555-8901	lily.foster@example.com	345 Oak St, Oceanview	James Foster - 555-2345	B-
	59	Michael	Nelson	1997-08-04	Male	555-9012	michael.nelson@example.com	456 Birch St, Windwood	Sophia Nelson - 555-3456	O+
	60	Sophia	Carter	1994-04-30	Female	555-0123	sophia.carter@example.com	567 Oak St, Riverdale	Matthew Carter - 555-4567	AB+

2. Departments

SELECT * FROM Departments;

	floor_no	dept_name	about
	0	Outpatient Clinics	For non-urgent consultations and follow-ups (e.g., general checkups, routine care).
▶	0	Urgent Care	For non-emergency but urgent medical concerns (e.g., minor injuries, infections, flu).
	0	Emergency Department (ER)	Immediate care for acute conditions and life-threatening injuries (heart attacks, strokes, trauma, etc.).
	0	Primary Care Services	Includes Family Medicine, Internal Medicine, Pediatrics, and Geriatrics for regular checkups, preventative care, and managing chronic conditions.
	1	Endocrinology	Focuses on diseases related to hormones and metabolism, such as diabetes, thyroid issues, and adrenal disorders.
	1	Rheumatology	Treats autoimmune diseases and musculoskeletal disorders, including arthritis and lupus.
	1	Pulmonology	Deals with respiratory diseases, including asthma, COPD, and pneumonia.
	1	Cardiology	Specializes in the diagnosis and treatment of heart conditions, such as coronary artery disease and arrhythmias.
	1	Nephrology	Focuses on kidney diseases and conditions such as kidney failure, dialysis, and kidney transplantation.
	1	Dermatology	Treats skin diseases, including acne, eczema, psoriasis, and skin cancers.
	1	Infectious Disease	Diagnoses and treats infections caused by bacteria, viruses, and fungi.
	1	Gastroenterology	Specializes in digestive system diseases, including the stomach, liver, pancreas, and intestines.
	2	Neurosurgery	Surgical treatment for brain, spinal cord, and nervous system disorders.
	2	General Surgery	Performs surgeries for conditions affecting the abdomen, digestive system, and soft tissues (e.g., appendectomies, hernia repairs).
	2	Cardiothoracic Surgery	Performs surgeries on the heart and lungs, including bypass surgeries and valve replacements.
	2	Orthopedic Surgery	Specializes in musculoskeletal conditions, including bone fractures, joint replacements, and spine surgery.
	2	Plastic Surgery	Offers reconstructive surgery (e.g., after injury or congenital deformities) and cosmetic procedures.
	3	Breast Health	Dedicated to breast exams, mammograms, and treatment for breast cancer.
	3	Gynecology (GYN)	Treats reproductive health issues for women, such as menstrual problems, contraception, and menopause.
	3	Obstetrics (OB)	Care for pregnant women, including prenatal, labor, and postpartum care.
	3	Reproductive Medicine	Deals with infertility treatments, in-vitro fertilization (IVF), and hormonal therapies.
	4	Clinical Laboratory	Blood tests, urine tests, and microbiology for diagnosing various conditions.
	4	Genetics	Provides genetic counseling and testing for hereditary conditions and genetic disorders.
	4	Pathology	Lab tests to diagnose diseases, including cancer, infections, and genetic conditions.
	4	Radiology	Imaging diagnostics such as X-rays, MRIs, CT scans, and ultrasounds.
	5	Addiction Medicine	Treatment for substance use disorders, including detoxification, counseling, and rehabilitation programs.
	5	Neuropsychology	Focuses on brain-behavior relationships, working with patients who have neurological conditions or brain injuries.
	5	Psychiatry	Medical treatment for mental health disorders, including medications and psychiatric evaluations.
	5	Psychology	Therapy services for mental health conditions through various forms of psychotherapy (CBT, DBT, etc.).
	6	Cardiac ICU (CICU)	Specialized ICU for patients recovering from heart surgery, heart attacks, or severe heart conditions.
	6	Intensive Care Unit (ICU)	Critical care for patients with life-threatening conditions, including respiratory failure, sepsis, and organ failure.
	6	Pediatric ICU (PICU)	For critically ill children who require intensive monitoring and support.
	6	Post-Anesthesia Care Unit (...)	Recovery area for patients coming out of anesthesia after surgery.
	6	Neonatal ICU (NICU)	Specialized care for premature or critically ill newborns.
	7	Physical Therapy (PT)	Helps patients regain mobility and strength after surgery, injury, or illness.
	7	Occupational Therapy (OT)	Focuses on helping patients return to daily activities (e.g., dressing, eating, grooming) after illness or injury.
	7	Rehabilitation Medicine	Includes multidisciplinary rehabilitation for patients with neurological or musculoskeletal conditions.
	7	Speech Therapy	Works with patients to recover speech, language, and swallowing abilities.
	8	Bone Marrow/Stem Cell Tra...	For patients requiring hematopoietic stem cell transplants.
	8	Bone Marrow/Stem Cell Tra...	For patients requiring hematopoietic stem cell transplants.
	8	Hematology	Treatment of blood cancers, such as leukemia, lymphoma, and other hematologic disorders.
	8	Palliative Care	For patients with serious illnesses, focusing on comfort, symptom management, and quality of life.
	8	Radiation Therapy	Administers targeted radiation treatments for cancer patients.
	8	Oncology	Specialized care for cancer patients, including chemotherapy, radiation therapy, and surgery.
	9	Dialysis Unit	Provides treatment for patients with kidney failure, including hemodialysis and peritoneal dialysis.
	9	Kidney Transplantation	Specialized services for kidney transplants and post-transplant care.
	9	Liver Transplantation	Care for patients undergoing liver transplants, including pre- and post-surgery services.

3. Doctors

SELECT * FROM Doctors;

doc_id	doc_name	dept_name	specialty	post	degree	floor_no	attending_external_hospital
1	Dr. Alan Smith	Outpatient Clinics	General Medicine	Consultant	MD	0	City General Hospital
2	Dr. Beatrice Clark	Urgent Care	Emergency Medicine	Senior Consultant	MD	0	QuickCare Clinic
3	Dr. Charles Wilson	Emergency Department (ER)	Trauma Surgery	Surgeon	MD	0	City Trauma Center
4	Dr. Diana Brown	Primary Care Services	Family Medicine	Consultant	MBBS	0	HealthFirst Clinic
5	Dr. Edward Adams	Outpatient Clinics	Internal Medicine	Consultant	MD	0	City Health Center
6	Dr. Fiona Turner	Urgent Care	Critical Care	Consultant	MD	0	Emergency Health Clinic
7	Dr. George Moore	Primary Care Services	Pediatrics	Senior Consultant	MBBS	0	Children's Health Hospital
8	Dr. Kevin White	Endocrinology	Diabetes Management	Consultant	MD	1	Endocrine Care Clinic
9	Dr. Laura Lee	Rheumatology	Arthritis Treatment	Rheumatologist	MD	1	RheumaCare Center
10	Dr. Mike Jackson	Cardiology	Heart Disease	Cardiologist	MD	1	Cardiac Health Center
11	Dr. Nancy Cooper	Pulmonology	COPD Management	Pulmonologist	MBBS	1	Breathe Life Clinic
12	Dr. Oliver Turner	Nephrology	Dialysis	Nephrologist	MD	1	Renal Care Clinic
13	Dr. Paula Mitchell	Gastroenterology	Digestive Disorders	Gastroenterologist	MD	1	Gut Health Center
14	Dr. Quentin Carter	Cardiology	Arrhythmias	Cardiologist	MBBS	1	HeartCare Clinic
15	Dr. Ursula Harris	Neurosurgery	Spinal Disorders	Neurosurgeon	MD	2	NeuroSurgery Center
16	Dr. Victor Davis	Orthopedic Surgery	Joint Replacement	Orthopedic Surgeon	MD	2	Joint Care Clinic
17	Dr. William White	Plastic Surgery	Reconstructive Surgery	Plastic Surgeon	MD	2	Reconstructive Surgery Center
18	Dr. Xavier Moore	General Surgery	Hernia Repair	Surgeon	MBBS	2	Surgical Health Center
19	Dr. Yvonne Johnson	Neurosurgery	Brain Tumors	Neurosurgeon	MD	2	Brain Health Clinic
20	Dr. Zachary Adams	Orthopedic Surgery	Spinal Surgery	Orthopedic Surgeon	MD	2	Spine Surgery Center
21	Dr. Alan Cooper	Cardiothoracic Surgery	Valve Replacement	Cardiothoracic Surgeon	MD	2	Cardiac Surgery Center
22	Dr. Edward King	Breast Health	Breast Cancer Treatment	Breast Surgeon	MD	3	Breast Care Center
23	Dr. Fiona Green	Gynecology (GYN)	Menstrual Disorders	Gynecologist	MD	3	GynCare Clinic
24	Dr. Gary Brown	Obstetrics (OB)	Prenatal Care	OB/GYN	MBBS	3	Maternity Health Center
25	Dr. Helen Thomas	Gynecology (GYN)	Contraceptive Counseling	Senior Consultant	MD	3	Women's Health Clinic
26	Dr. Isabella Walker	Reproductive Medicine	IVF	Fertility Specialist	MD	3	Fertility Health Center
27	Dr. Jack Adams	Reproductive Medicine	Infertility	Specialist	MBBS	3	Reproductive Health Institute
28	Dr. Karen Turner	Breast Health	Mammogram	Radiologist	MD	3	Mammography Clinic
29	Dr. Liam Clark	Obstetrics (OB)	Labor and Delivery	OB/GYN	MD	4	Obstetric Care Center
30	Dr. Maria King	Obstetrics (OB)	Postpartum Care	Consultant	MBBS	4	Postpartum Health Center
31	Dr. Nathan Harris	Reproductive Medicine	Egg Freezing	Fertility Specialist	MD	4	IVF Clinic
32	Dr. Olivia White	Pathology	Cancer Diagnosis	Pathologist	MD	4	Pathology Health Center
33	Dr. Paul Scott	Radiology	MRI Imaging	Radiologist	MD	4	Imaging Health Center
34	Dr. Quentin Brown	Clinical Laboratory	Blood Tests	Laboratory Technician	MBBS	4	Diagnostic Laboratory Clinic
35	Dr. Rebecca Adams	Genetics	Genetic Testing	Geneticist	MD	4	Genetic Health Center
36	Dr. Samuel Green	Clinical Laboratory	Microbiology	Pathologist	MD	5	Diagnostic Health Center
37	Dr. Teresa Walker	Radiology	CT Scans	Radiologist	MD	5	Radiology Health Institute
38	Dr. Ursula White	Pathology	Skin Cancer Diagnosis	Pathologist	MD	5	Oncology Pathology Center
39	Dr. Victor King	Genetics	Hereditary Conditions	Genetic Counselor	PhD	5	Genetic Research Center

doc_id	doc_name	dept_name	specialty	post	degree	floor_no	attending_external_hospital
33	Dr. Paul Scott	Radiology	MRI Imaging	Radiologist	MD	4	Imaging Health Center
34	Dr. Quentin Brown	Clinical Laboratory	Blood Tests	Laboratory Technician	MBBS	4	Diagnostic Laboratory Clinic
35	Dr. Rebecca Adams	Genetics	Genetic Testing	Geneticist	MD	4	Genetic Health Center
36	Dr. Samuel Green	Clinical Laboratory	Microbiology	Pathologist	MD	5	Diagnostic Health Center
37	Dr. Teresa Walker	Radiology	CT Scans	Radiologist	MD	5	Radiology Health Institute
38	Dr. Ursula White	Pathology	Skin Cancer Diagnosis	Pathologist	MD	5	Oncology Pathology Center
39	Dr. Victor King	Genetics	Hereditary Conditions	Genetic Counselor	PhD	5	Genetic Research Center
40	Dr. Wanda Johnson	Clinical Laboratory	Urine Tests	Laboratory Technician	MBBS	5	Clinical Diagnostics
41	Dr. Xavier Lee	Radiology	X-Ray Imaging	Radiologist	MD	5	X-ray Health Center
42	Dr. Yasmin White	Pathology	Autopsy Services	Pathologist	MD	5	Pathology Institute
43	Dr. Zackary Moore	Cardiac ICU (CICU)	Post-Op Recovery	Intensivist	MD	6	Heart Recovery Center
44	Dr. Alice Brown	Intensive Care Unit (ICU)	Critical Care	ICU Consultant	MD	6	Trauma Intensive Care Center
45	Dr. Brian Collins	Pediatric ICU (PICU)	Neonatal Care	Pediatrician	MD	6	Pediatric ICU Health Center
46	Dr. Clara Evans	Post-Anesthesia Care Unit (PACU)	Anesthesia Recovery	PACU Nurse	MD	6	Surgical Recovery Center
47	Dr. Daniel Harris	Neonatal ICU (NICU)	Neonatal Care	Neonatologist	MD	6	NICU Health Center
48	Dr. Emily Green	Cardiac ICU (CICU)	Heart Surgery Recovery	Cardiologist	MD	6	Cardiac Recovery Unit
49	Dr. Frank Scott	Intensive Care Unit (ICU)	Ventilator Support	Intensivist	MD	6	ICU Care Center
50	Dr. Gavin White	Physical Therapy (PT)	Rehabilitation Post-Surgery	Physical Therapist	DPT	7	Rehab Health Center
51	Dr. Holly Brown	Occupational Therapy (OT)	Musculoskeletal Rehabilitation	OT Specialist	DPT	7	OT Care Center
52	Dr. Ian Davis	Rehabilitation Medicine	Neuro-Rehabilitation	Specialist	MD	7	Neuro Rehab Clinic
53	Dr. Jack Turner	Speech Therapy	Speech Rehabilitation	Speech Therapist	MS	7	Speech Health Clinic
54	Dr. Karen Lee	Physical Therapy (PT)	Post-Stroke Rehabilitation	Physical Therapist	DPT	7	Stroke Rehab Center
55	Dr. Liam Scott	Rehabilitation Medicine	Post-Surgery Recovery	Rehabilitation Specialist	MD	7	Surgical Rehabilitation Center
56	Dr. Monica Green	Speech Therapy	Swallowing Disorders	Speech Pathologist	MS	7	Speech Rehab Clinic
57	Dr. Nathan White	Bone Marrow/Stem Cell Transplantation	Stem Cell Therapy	Hematologist	MD	8	Stem Cell Institute
58	Dr. Olivia King	Hematology	Leukemia Treatment	Hematologist	MD	8	Cancer Research Center
59	Dr. Peter Johnson	Oncology	Radiation Therapy	Oncologist	MD	8	Oncology Radiation Center
60	Dr. Quentin Lee	Radiation Therapy	Cancer Radiation	Radiation Oncologist	MD	8	Cancer Care Center
61	Dr. Rachel Turner	Palliative Care	End-of-Life Care	Palliative Specialist	MD	8	Palliative Health Clinic
62	Dr. Steven Clark	Oncology	Chemotherapy	Oncologist	MD	8	Chemotherapy Health Center
63	Dr. Tina Scott	Oncology	Cancer Treatment	Oncologist	MD	8	Cancer Care Center
64	Dr. Uma White	Dialysis Unit	Chronic Kidney Disease	Nephrologist	MD	9	Dialysis Health Center
65	Dr. Victor Brown	Kidney Transplantation	Kidney Transplant	Transplant Surgeon	MD	9	Kidney Transplant Center
66	Dr. William Green	Dialysis Unit	Hemodialysis	Nephrologist	MBBS	9	Renal Dialysis Center
67	Dr. Xander Lee	Liver Transplantation	Liver Transplant Surgery	Liver Surgeon	MD	9	Liver Transplant Center
68	Dr. Yara Davis	Dialysis Unit	Dialysis Support	Nephrology Nurse	RN	9	Dialysis Center
69	Dr. Zachary White	Kidney Transplantation	Kidney Transplant Care	Nephrologist	MD	9	Kidney Institute
70	Dr. Alexis King	Liver Transplantation	Liver Care	Liver Specialist	MD	9	Transplant Health Clinic

4. Floors

SELECT * FROM Floors;

	floor_no	floor_service
▶	0	Emergency, Primary Care, and Outpatient Services
	1	Specialty Medical Departments
	2	Surgical Services
	3	Women's Health and Reproductive Medicine
	4	Diagnostic and Laboratory Services
	5	Mental Health and Behavioral Health
	6	Critical Care and Specialized Units
	7	Rehabilitation and Therapy Services
	8	Oncology and Cancer Care
	9	Dialysis and Transplant Services
★	NULL	NULL

5. Nurses

SELECT * FROM Nurses;

	nurse_id	nurse_name	department	contact_number	email	hire_date	floor_no
▶	1001	Sarah Johnson	Physical Therapy (PT)	203-555-0011	sarah.johnson@hospital.com	2022-01-15	7
	1002	James Smith	Radiology	203-555-0012	james.smith@hospital.com	2021-02-22	4
	1003	Patricia Brown	Psychiatry	203-555-0013	patricia.brown@hospital.com	2020-03-10	5
	1004	Michael Davis	Cardiology	203-555-0014	michael.davis@hospital.com	2023-07-08	1
	1005	Linda Garcia	Pediatric ICU (PICU)	203-555-0015	linda.garcia@hospital.com	2021-06-25	6
	1006	Robert Martinez	Neurosurgery	203-555-0016	robert.martinez@hospital.com	2020-08-12	2
	1007	Jennifer Wilson	Oncology	203-555-0017	jennifer.wilson@hospital.com	2023-04-01	8
	1008	David Moore	Infectious Disease	203-555-0018	david.moore@hospital.com	2022-02-10	1
	1009	Mary Taylor	General Surgery	203-555-0019	mary.taylor@hospital.com	2021-11-14	2
	1010	John Anderson	Addiction Medicine	203-555-0020	john.anderson@hospital.com	2024-01-07	5
	1011	Nancy Thomas	Neonatal ICU (NICU)	203-555-0021	nancy.thomas@hospital.com	2020-04-05	6
	1012	William Jackson	Orthopedic Surgery	203-555-0022	william.jackson@hospital.com	2023-03-25	2
	1013	Elizabeth White	Physical Therapy (PT)	203-555-0023	elizabeth.white@hospital.com	2021-07-19	7
	1014	Joseph Harris	Gastroenterology	203-555-0024	joseph.harris@hospital.com	2022-05-17	1
	1015	Susan Martin	Cardiothoracic Surgery	203-555-0025	susan.martin@hospital.com	2023-06-22	2
	1016	Charles Lee	Psychology	203-555-0026	charles.lee@hospital.com	2021-10-10	5
	1017	Jessica Allen	Breast Health	203-555-0027	jessica.allen@hospital.com	2022-12-15	7
	1018	Thomas King	Neurosurgery	203-555-0028	thomas.king@hospital.com	2023-09-01	2
	1019	Barbara Scott	Psychiatry	203-555-0029	barbara.scott@hospital.com	2020-10-28	5
	1020	Steven Young	Cardiology	203-555-0030	steven.young@hospital.com	2024-02-12	1
	1021	Jessica Walker	Neonatal ICU (NICU)	203-555-0031	jessica.walker@hospital.com	2023-03-14	6
	1022	Daniel Moore	Psychology	203-555-0032	daniel.moore@hospital.com	2022-06-11	5
	1023	Betty Gonzalez	Addiction Medicine	203-555-0033	betty.gonzalez@hospital.com	2020-12-17	5
	1024	Mark Martinez	Pediatric ICU (PICU)	203-555-0034	mark.martinez@hospital.com	2021-01-04	6
	1025	Andrew Rodrig...	Plastic Surgery	203-555-0035	andrew.rodriguez@hospital.c...	2023-05-09	2
	1026	Nancy Perez	Reproductive Medicine	203-555-0036	nancy.perez@hospital.com	2020-07-24	3
	1027	Mary White	Pathology	203-555-0037	mary.white@hospital.com	2022-04-17	4
	1028	Henry Green	Neurosurgery	203-555-0038	henry.green@hospital.com	2021-12-01	2
	1029	Jack Adams	Radiology	203-555-0039	jack.adams@hospital.com	2023-11-18	4
	1030	Grace Hall	Orthopedic Surgery	203-555-0040	grace.hall@hospital.com	2020-03-30	2
	1031	Helen Harris	Neonatal ICU (NICU)	203-555-0041	helen.harris@hospital.com	2022-07-26	6
	1032	Joseph Garcia	Oncology	203-555-0042	joseph.garcia@hospital.com	2021-10-20	8
	1033	Christine Nelson	Cardiology	203-555-0043	christine.nelson@hospital.com	2023-08-01	1
	1034	Charles Martinez	Intensive Care Unit (...)	203-555-0044	charles.martinez@hospital.com	2020-05-22	6
	1035	Megan Taylor	Gastroenterology	203-555-0045	megan.taylor@hospital.com	2024-03-10	1
	1036	Emma Clark	Physical Therapy (PT)	203-555-0046	emma.clark@hospital.com	2021-02-07	7
	1037	Daniel Young	Rheumatology	203-555-0047	daniel.young@hospital.com	2022-09-04	1
	1038	Rachel Moore	Infectious Disease	203-555-0048	rachel.moore@hospital.com	2023-07-15	1
	1039	Alice Williams	Plastic Surgery	203-555-0049	alice.williams@hospital.com	2021-04-13	2

1039	Alice Williams	Plastic Surgery	203-555-0049	alice.williams@hospital.com	2021-04-13	2
1040	Edward Scott	Psychiatry	203-555-0050	edward.scott@hospital.com	2020-12-22	5
1041	Samuel Harris	Neurosurgery	203-555-0051	samuel.harris@hospital.com	2022-11-08	2
1042	Ashley Carter	Radiology	203-555-0052	ashley.carter@hospital.com	2023-06-30	4
1043	Richard Thomas	Cardiology	203-555-0053	richard.thomas@hospital.com	2021-01-15	1
1044	Deborah Walker	Neonatal ICU (NICU)	203-555-0054	deborah.walker@hospital.com	2022-10-02	6
1045	Josephine Robi...	Physical Therapy (PT)	203-555-0055	josephine.robinson@hospital....	2020-08-29	7
1046	Thomas Evans	Cardiothoracic Surgery	203-555-0056	thomas.evans@hospital.com	2023-02-03	2
1047	Natalie Scott	Infectious Disease	203-555-0057	natalie.scott@hospital.com	2020-06-12	1
1048	Lauren Green	Oncology	203-555-0058	lauren.green@hospital.com	2021-04-28	8
1049	Matthew King	Pediatric ICU (PICU)	203-555-0059	matthew.king@hospital.com	2023-03-20	6
1050	Christine Adams	General Surgery	203-555-0060	christine.adams@hospital.com	2020-07-05	2
1051	John Martinez	Cardiology	203-555-0061	john.martinez@hospital.com	2022-04-18	1
1052	Paul Robinson	Addiction Medicine	203-555-0062	paul.robinson@hospital.com	2023-08-17	5
1053	Amy Clark	General Surgery	203-555-0063	amy.clark@hospital.com	2021-12-30	2
1054	Anthony White	Neonatal ICU (NICU)	203-555-0064	anthony.white@hospital.com	2023-09-05	6
1055	Elizabeth Green	Rheumatology	203-555-0065	elizabeth.green@hospital.com	2020-05-06	1
1056	Joshua Thomas	Orthopedic Surgery	203-555-0066	joshua.thomas@hospital.com	2023-01-17	2
1057	Maria Scott	Nephrology	203-555-0067	maria.scott@hospital.com	2021-11-04	0
1058	Douglas Hall	Plastic Surgery	203-555-0068	douglas.hall@hospital.com	2022-10-27	2
1059	Grace Martinez	Cardiology	203-555-0069	grace.martinez@hospital.com	2024-01-21	1
1060	Franklin Lee	Addiction Medicine	203-555-0070	franklin.lee@hospital.com	2023-04-06	5
1061	Evan Nelson	Dialysis Unit	203-555-0046	evan.nelson@hospital.com	2023-03-11	9
1062	Avery Carter	Kidney Transplantation	203-555-0047	avery.carter@hospital.com	2020-08-18	9
1063	Ella Wilson	Liver Transplantation	203-555-0048	ella.wilson@hospital.com	2021-10-03	9
1064	Carter Walker	Dialysis Unit	203-555-0049	carter.walker@hospital.com	2023-04-21	9
1065	Mason Johnson	Liver Transplantation	203-555-0050	mason.johnson@hospital.com	2022-07-14	9

6. Room

SELECT * FROM Room;

	room_id	room_number	floor_no	room_type	room_status	patient_id	admission_date	discharge_date	cost_per_day
▶	1	R-001	0	Emergency Room	Occupied	1	2024-11-29	NULL	178.98
	2	R-002	0	Urgent Care Room	Occupied	1	2024-12-01	NULL	795.51
	3	R-003	0	Primary Care Room	Occupied	2	2024-12-02	NULL	640.63
	4	R-004	0	Primary Care Room	Discharged	3	2024-12-03	2024-12-08	716.60
	5	R-005	9	Dialysis Room	Occupied	4	2024-12-04	NULL	661.13
	6	R-006	0	Urgent Care Room	Occupied	5	2024-12-05	NULL	155.83
	7	R-007	0	Primary Care Room	Discharged	5	2024-12-06	2024-12-11	495.75
	8	R-008	0	Emergency Room	Occupied	6	2024-12-07	NULL	111.27
	9	R-009	0	Outpatient Room	Occupied	7	2024-12-08	NULL	769.09
	10	R-010	1	Endocrinology Room	Occupied	8	2024-12-09	NULL	711.64
	11	R-011	1	Nephrology Room	Discharged	9	2024-12-10	2024-12-15	250.92
	12	R-012	2	Orthopedic Surgery...	Discharged	10	2024-12-11	2024-12-16	819.69
	13	R-013	2	Plastic Surgery Room	Discharged	11	2024-12-12	2024-12-17	545.68
	14	R-014	3	Cardiology Room	Discharged	12	2024-12-13	2024-12-18	169.32
	15	R-015	3	Radiology Room	Discharged	13	2024-12-14	2024-12-19	909.56
	16	R-016	4	Pulmonology Room	Discharged	14	2024-12-15	2024-12-20	339.84
	17	R-017	4	Oncology Room	Discharged	15	2024-12-16	2024-12-21	670.54
	18	R-018	5	Palliative Care Room	Discharged	16	2024-12-17	2024-12-22	433.17
	19	R-019	5	Gynecology Room	Occupied	17	2024-12-18	NULL	954.23
	20	R-020	6	Neurosurgery Room	Occupied	18	2024-12-19	NULL	671.63
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

7. Appointments

SELECT * FROM Appointments;

	appointment_id	patient_id	doc_id	appointment_date	appointment_time	reason_for_visit	Appointment_status
▶	1	1	3	2024-11-29	09:00:00	Routine check-up	Scheduled
	2	1	6	2024-12-01	10:30:00	Follow-up on blood pressure	Scheduled
	3	2	7	2024-12-02	11:00:00	Skin rash examination	Scheduled
	4	3	4	2024-12-03	12:00:00	Annual health check	Scheduled
	5	4	9	2024-12-04	09:00:00	Physical therapy	Scheduled
	6	5	2	2024-12-05	10:15:00	Flu symptoms	Scheduled
	7	5	7	2024-12-06	14:00:00	Injury recovery	Scheduled
	8	6	3	2024-12-07	09:30:00	Consultation for dizziness	Scheduled
	9	7	1	2024-12-08	10:45:00	Post-surgery follow-up	Scheduled
	10	8	5	2024-12-09	12:00:00	General consultation	Scheduled
	11	8	8	2024-12-10	14:30:00	Back pain treatment	Scheduled
	12	9	4	2024-12-11	11:15:00	Eye examination	Scheduled
	13	10	3	2024-12-12	13:30:00	Mental health therapy	Scheduled
	14	11	7	2024-12-13	15:00:00	Routine blood tests	Scheduled
	15	12	2	2024-12-14	09:30:00	Dental check-up	Scheduled
	16	13	6	2024-12-15	10:00:00	Back pain consultation	Scheduled
	17	14	9	2024-12-16	11:00:00	Respiratory check-up	Scheduled
	18	15	1	2024-12-17	12:15:00	Routine health check	Scheduled
	19	16	7	2024-12-18	14:00:00	Chronic pain management	Scheduled
	20	17	3	2024-12-19	15:30:00	Physical therapy follow-up	Scheduled
	21	18	2	2024-12-20	09:00:00	Routine health check-up	Scheduled
	22	19	6	2024-12-21	10:30:00	Consultation for dizziness	Scheduled
	23	20	3	2024-12-22	11:00:00	Mental health counseling	Scheduled
	24	21	4	2024-12-23	13:00:00	Eye surgery consultation	Scheduled
	25	22	7	2024-12-24	14:00:00	Neck pain consultation	Scheduled
	26	23	1	2024-12-25	15:30:00	Routine check-up	Scheduled
	27	24	5	2024-12-26	09:45:00	Dietary consultation	Scheduled
	28	25	8	2024-12-27	11:30:00	Knee pain treatment	Scheduled
	29	26	9	2024-12-28	12:00:00	Chronic cough management	Scheduled
	30	27	6	2024-12-29	13:15:00	Respiratory treatment	Scheduled
	31	28	3	2024-12-30	14:45:00	Cardiology consultation	Scheduled
	32	29	7	2025-01-01	09:00:00	Physical therapy	Scheduled
	33	30	2	2025-01-02	10:30:00	Vision check-up	Scheduled
	34	31	4	2025-01-03	12:00:00	Heart disease consultation	Scheduled
	35	32	1	2025-01-04	13:30:00	Family medicine consultation	Scheduled
	36	33	8	2025-01-05	14:15:00	Back pain consultation	Scheduled
	37	34	9	2025-01-06	15:00:00	Asthma treatment	Scheduled
	38	35	6	2025-01-07	09:00:00	Chronic pain management	Scheduled
	39	36	7	2025-01-08	10:45:00	Post-surgery follow-up	Scheduled

39	36	7	2025-01-08	10:45:00	Post-surgery follow-up	Scheduled
40	37	2	2025-01-09	12:30:00	Diabetes management	Scheduled
41	38	4	2025-01-10	14:00:00	Heart disease check-up	Scheduled
42	39	5	2025-01-11	13:30:00	General consultation	Scheduled
43	40	3	2025-01-12	15:00:00	Mental health therapy	Scheduled
44	41	8	2025-01-13	16:00:00	Physical therapy	Scheduled
45	42	9	2025-01-14	09:30:00	Pulmonary check-up	Scheduled
46	43	6	2025-01-15	10:45:00	Consultation for dizziness	Scheduled
47	44	7	2025-01-16	11:30:00	Arthritis treatment	Scheduled
48	45	2	2025-01-17	13:00:00	Routine check-up	Scheduled
49	46	5	2025-01-18	14:30:00	Nutritional counseling	Scheduled
50	47	8	2025-01-19	15:00:00	Back injury consultation	Scheduled
51	48	3	2025-01-20	09:00:00	Routine check-up	Scheduled
52	48	4	2025-01-21	10:30:00	Cardiology consultation	Scheduled
53	49	5	2025-01-22	11:00:00	Diet consultation	Scheduled
54	49	2	2025-01-23	13:00:00	Eye exam	Scheduled
55	50	7	2025-01-24	14:30:00	Physical therapy follow-up	Scheduled
56	51	9	2025-01-25	15:00:00	Respiratory therapy	Scheduled
57	52	3	2025-01-26	09:30:00	Routine health check	Scheduled
58	52	6	2025-01-27	10:00:00	Neuropsychology evaluation	Scheduled
59	53	8	2025-01-28	11:30:00	Orthopedic consultation	Scheduled
60	54	7	2025-01-29	12:00:00	Physical therapy consultation	Scheduled
61	55	1	2025-01-30	13:30:00	General check-up	Scheduled
62	56	9	2025-02-01	14:15:00	Dialysis consultation	Scheduled
63	57	6	2025-02-02	15:30:00	Respiratory evaluation	Scheduled
64	58	4	2025-02-03	09:15:00	Cardiac follow-up	Scheduled
65	59	8	2025-02-04	10:45:00	Back injury check-up	Scheduled
66	60	5	2025-02-05	11:30:00	Nutritional counseling	Scheduled

8. Admissions

SELECT * FROM Admissions;

	admission_id	patient_id	floor_no	dept_name	admission_date	discharge_date	attending_doctor_id	admission_status
▶	1	1	0	Emergency Department (ER)	2024-11-29	2024-11-29	3	Admitted
	2	1	0	Urgent Care	2024-12-01	NULL	6	Admitted
	3	2	0	Primary Care Services	2024-12-02	NULL	7	Admitted
	4	3	0	Primary Care Services	2024-12-03	2024-12-08	4	Discharged
	5	4	9	Dialysis Unit	2024-12-04	NULL	9	Admitted
	6	5	0	Urgent Care	2024-12-05	2024-12-06	2	Admitted
	7	5	0	Primary Care Services	2024-12-06	2024-12-11	7	Discharged
	8	6	0	Emergency Department (ER)	2024-12-07	NULL	3	Admitted
	9	7	0	Outpatient Clinics	2024-12-08	NULL	1	Admitted
	10	8	1	Endocrinology	2024-12-09	NULL	8	Admitted
	11	9	1	Nephrology	2024-12-10	2024-12-15	9	Discharged
	12	10	2	Orthopedic Surgery	2024-12-11	2024-12-16	10	Discharged
	13	11	2	Plastic Surgery	2024-12-12	2024-12-17	11	Discharged
	14	12	3	Cardiology	2024-12-13	2024-12-18	12	Discharged
	15	13	3	Radiology	2024-12-14	2024-12-19	13	Discharged
	16	14	4	Pulmonology	2024-12-15	2024-12-20	14	Discharged
	17	15	4	Oncology	2024-12-16	2024-12-21	15	Discharged
	18	16	5	Palliative Care	2024-12-17	2024-12-22	16	Discharged
	19	17	5	Gynecology (GYN)	2024-12-18	NULL	17	Admitted
	20	18	6	Neurosurgery	2024-12-19	NULL	18	Admitted
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

9. Assigned_nurse

SELECT * FROM assigned_nurse;

	assignment_id	patient_id	nurse_id	room_id	shift_time	assignment_date	notes
▶	1	1	1001	1	Morning	2024-11-29	Assigned to assist patient during initial admission...
	2	1	1002	1	Night	2024-11-29	Assisted with emergency medical evaluations an...
	3	2	1003	1	Morning	2024-12-02	Supported patient through primary care examin...
	4	3	1004	1	Afternoon	2024-12-03	Assisted patient post-surgery and assisted with...
	5	4	1005	2	Night	2024-12-04	Cared for patient in the Dialysis Unit, managing ...
	6	5	1006	3	Morning	2024-12-05	Managed patient admission and assisted with ini...
	7	5	1007	3	Afternoon	2024-12-06	Monitored patient and helped with medical tests...
	8	6	1008	4	Night	2024-12-07	Supported emergency care and assisted in moni...
	9	7	1009	5	Morning	2024-12-08	Managed outpatient procedure and ensured pr...
	10	8	1010	6	Afternoon	2024-12-09	Assisted patient in endocrinology unit with medi...
	11	9	1011	7	Night	2024-12-10	Assisted with nephrology evaluation and prepar...
	12	10	1012	8	Morning	2024-12-11	Assisted with orthopedic surgery preparation a...
	13	11	1013	9	Afternoon	2024-12-12	Supervised recovery after plastic surgery and ...
	14	12	1014	10	Morning	2024-12-13	Assisted with cardiology procedures and monito...
	15	13	1015	11	Night	2024-12-14	Assisted with radiology exams and patient positi...
	16	14	1016	12	Morning	2024-12-15	Monitored pulmonology patient post-procedure ...
	17	15	1017	13	Afternoon	2024-12-16	Assisted with oncology therapy and monitored r...
	18	16	1018	14	Night	2024-12-17	Managed palliative care patient and ensured co...
	19	17	1019	15	Morning	2024-12-18	Assisted with gynecology examinations and pos...
	20	18	1020	16	Afternoon	2024-12-19	Assisted with neurosurgery procedures and ens...
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

10. Tests

SELECT * FROM Tests;

	test_id	test_name	dept_name	floor_no	test_type	cost
▶	1	Routine Checkup	Outpatient Clinics	0	Consultation	100.00
	2	Flu Test	Outpatient Clinics	0	Lab	25.00
	3	X-Ray for Minor Injuries	Urgent Care	0	Imaging	100.00
	4	Urine Test	Urgent Care	0	Lab	30.00
	5	EKG	Emergency Department (ER)	0	Diagnostic	200.00
	6	Chest X-Ray	Emergency Department (ER)	0	Imaging	150.00
	7	General Blood Tests	Primary Care Services	0	Lab	75.00
	8	Blood Pressure Measurement	Primary Care Services	0	Consultation	50.00
	9	Thyroid Function Test	Endocrinology	1	Lab	100.00
	10	Bone Density Test	Rheumatology	1	Imaging	250.00
	11	Pulmonary Function Test	Pulmonology	1	Diagnostic	200.00
	12	ECG	Cardiology	1	Diagnostic	150.00
	13	Kidney Function Test	Nephrology	1	Lab	120.00
	14	Skin Biopsy	Dermatology	1	Diagnostic	300.00
	15	TB Test	Infectious Disease	1	Lab	50.00
	16	Colonoscopy	Gastroenterology	1	Diagnostic	400.00
	17	CT Scan Brain	Neurosurgery	2	Imaging	450.00
	18	Appendectomy Surgery	General Surgery	2	Surgical	2500.00
	19	Coronary Angiogram	Cardiothoracic Surgery	2	Diagnostic	600.00
	20	X-Ray of Joints	Orthopedic Surgery	2	Imaging	120.00
	21	Cosmetic Surgery Consultation	Plastic Surgery	2	Consultation	200.00
	22	Mammogram	Breast Health	3	Imaging	150.00
	23	Pap Smear	Gynecology (GYN)	3	Lab	75.00
	24	Ultrasound	Obstetrics (OB)	3	Imaging	200.00
	25	IVF Procedure	Reproductive Medicine	3	Surgical	5000.00
	26	Blood Cultures	Clinical Laboratory	4	Lab	150.00
	27	Genetic Screening	Genetics	4	Lab	300.00
	28	Biopsy	Pathology	4	Diagnostic	450.00
	29	X-Ray Chest	Radiology	4	Imaging	180.00
	30	Alcohol Detox Test	Addiction Medicine	5	Lab	200.00
	31	Cognitive Test	Neuropsychology	5	Diagnostic	250.00
	32	Psychiatric Evaluation	Psychiatry	5	Consultation	350.00
	33	Mental Health Assessment	Psychology	5	Consultation	150.00
	34	ECG Monitoring	Cardiac ICU (CICU)	6	Diagnostic	250.00
	35	ICU Monitoring	Intensive Care Unit (ICU)	6	Diagnostic	1000.00
	36	Brain Activity Test	Pediatric ICU (PICU)	6	Diagnostic	500.00
	37	Post-Surgery Monitoring	Post-Anesthesia Care Unit (...)	6	Diagnostic	150.00
	38	Blood Gases Test	Neonatal ICU (NICU)	6	Lab	80.00
	39	Physical Therapy Evaluation	Physical Therapy (PT)	7	Consultation	120.00

test_id	test_name	dept_name	floor_no	test_type	cost
40	Occupational Therapy Evalu...	Occupational Therapy (OT)	7	Consultation	150.00
41	Neuro Rehab Test	Rehabilitation Medicine	7	Diagnostic	200.00
42	Speech Therapy Evaluation	Speech Therapy	7	Consultation	100.00
43	Stem Cell Transplantation Test	Bone Marrow/Stem Cell Tra...	8	Diagnostic	5000.00
44	Blood Cancer Screening	Hematology	8	Lab	350.00
45	Pain Management Assessment	Palliative Care	8	Consultation	200.00
46	Radiation Treatment	Radiation Therapy	8	Treatment	3000.00
47	Oncology Consultation	Oncology	8	Consultation	400.00
48	Dialysis Treatment	Dialysis Unit	9	Treatment	500.00
49	Kidney Function Tests	Kidney Transplantation	9	Lab	150.00
50	Liver Function Test	Liver Transplantation	9	Lab	180.00
51	Routine Blood Work	Outpatient Clinics	0	Lab	60.00
52	Rapid Strep Test	Outpatient Clinics	0	Lab	30.00
53	Chest X-Ray	Urgent Care	0	Imaging	120.00
54	Rapid Flu Test	Urgent Care	0	Lab	40.00
55	Trauma Assessment	Emergency Department (ER)	0	Consultation	250.00
56	CT Scan Abdomen	Emergency Department (ER)	0	Imaging	500.00
57	Complete Blood Count (CBC)	Primary Care Services	0	Lab	50.00
58	Lipid Profile	Primary Care Services	0	Lab	75.00
59	Insulin Level Test	Endocrinology	1	Lab	110.00
60	Thyroid Ultrasound	Endocrinology	1	Imaging	150.00
61	Rheumatoid Factor Test	Rheumatology	1	Lab	120.00
62	Joint MRI	Rheumatology	1	Imaging	350.00
63	Chest CT	Pulmonology	1	Imaging	400.00
64	Lung Function Test	Pulmonology	1	Diagnostic	200.00
65	Cardiac Stress Test	Cardiology	1	Diagnostic	250.00
66	Echocardiogram	Cardiology	1	Imaging	300.00
67	Creatinine Test	Nephrology	1	Lab	70.00
68	Kidney Ultrasound	Nephrology	1	Imaging	180.00
69	Allergy Testing	Dermatology	1	Lab	150.00
70	Skin Cancer Biopsy	Dermatology	1	Diagnostic	250.00
71	HIV Test	Infectious Disease	1	Lab	50.00
72	Malaria Test	Infectious Disease	1	Lab	40.00
73	Colonoscopy Screening	Gastroenterology	1	Diagnostic	500.00
74	MRI Brain	Neurosurgery	2	Imaging	600.00
75	Spinal Cord Imaging	Neurosurgery	2	Imaging	550.00
76	Emergency Laparotomy	General Surgery	2	Surgical	3500.00
77	Hernia Repair Surgery	General Surgery	2	Surgical	2000.00
78	Heart Valve Replacement	Cardiothoracic Surgery	2	Surgical	12000...

	test_id	test_name	dept_name	floor_no	test_type	cost
	79	Cardiac Catheterization	Cardiothoracic Surgery	2	Diagnostic	700.00
	80	Spinal Fusion Surgery	Orthopedic Surgery	2	Surgical	8000.00
	81	Knee Replacement Surgery	Orthopedic Surgery	2	Surgical	7000.00
	82	Facelift Surgery	Plastic Surgery	2	Surgical	4000.00
	83	Tummy Tuck Surgery	Plastic Surgery	2	Surgical	5000.00
	84	Mammography Screening	Breast Health	3	Imaging	180.00
	85	Genetic Testing for Breast C...	Breast Health	3	Lab	350.00
	86	Endometrial Biopsy	Gynecology (GYN)	3	Diagnostic	300.00
	87	Pelvic Ultrasound	Gynecology (GYN)	3	Imaging	220.00
	88	Non-Stress Test	Obstetrics (OB)	3	Diagnostic	150.00
	89	Amniocentesis	Obstetrics (OB)	3	Diagnostic	800.00
	90	Semen Analysis	Reproductive Medicine	3	Lab	100.00
	91	Egg Freezing Consultation	Reproductive Medicine	3	Consultation	500.00
	92	Complete Blood Count (CBC)	Clinical Laboratory	4	Lab	55.00
	93	Urinalysis	Clinical Laboratory	4	Lab	30.00
	94	Genetic Mutation Screening	Genetics	4	Lab	250.00
	95	Chromosomal Abnormality Test	Genetics	4	Lab	300.00
	96	Frozen Section Biopsy	Pathology	4	Diagnostic	500.00
	97	CT Scan Abdomen & Pelvis	Radiology	4	Imaging	550.00
	98	MRI Chest	Radiology	4	Imaging	450.00
	99	Drug Screen Test	Addiction Medicine	5	Lab	100.00
	100	Psychiatric Interview	Neuropsychology	5	Consultation	200.00
	101	Cognitive Function Test	Neuropsychology	5	Diagnostic	250.00
	102	Medication Management	Psychiatry	5	Consultation	180.00
	103	Therapy Consultation	Psychology	5	Consultation	120.00
	104	Echocardiogram	Cardiac ICU (CICU)	6	Imaging	300.00
	105	Sepsis Blood Test	Intensive Care Unit (ICU)	6	Lab	150.00
	106	Neurological Monitoring	Pediatric ICU (PICU)	6	Diagnostic	400.00
	107	Anesthesia Consultation	Post-Anesthesia Care Unit (...)	6	Consultation	180.00
	108	Preterm Screening	Neonatal ICU (NICU)	6	Diagnostic	250.00
	109	Physical Assessment	Physical Therapy (PT)	7	Consultation	120.00
	110	Strength and Balance Test	Physical Therapy (PT)	7	Diagnostic	150.00
	111	ADL Test	Occupational Therapy (OT)	7	Diagnostic	100.00
	112	Post-Stroke Rehab Test	Rehabilitation Medicine	7	Diagnostic	200.00
	113	Speech Articulation Test	Speech Therapy	7	Diagnostic	150.00
	114	Bone Marrow Biopsy	Bone Marrow/Stem Cell Tra...	8	Diagnostic	600.00
	115	Blood Cancer Screening	Hematology	8	Lab	350.00
	116	Palliative Care Consultation	Palliative Care	8	Consultation	200.00
	117	Radiation Oncology Consult...	Radiation Therapy	8	Consultation	500.00
	117	Radiation Oncology Consult...	Radiation Therapy	8	Consultation	500.00
	118	Chemotherapy Consultation	Oncology	8	Consultation	400.00
	119	Tumor Marker Test	Oncology	8	Lab	250.00
	120	Dialysis Treat	Tumor Marker Test ysis Unit	9	Treatment	550.00
	121	Kidney Transplant Compatibi...	Kidney Transplantation	9	Lab	250.00
	122	Liver Function Test	Liver Transplantation	9	Lab	180.00
	123	CT Scan for Liver	Liver Transplantation	9	Imaging	400.00

11. Individual_patient_tests

SELECT * FROM Individual_patient_tests;

	test_record_id	patient_id	test_id	test_date	test_result	test_status	assigned_doctor_id	cost
▶	1	1	1	2024-11-29	No Abnormalities Found	Completed	3	100.00
	2	1	2	2024-12-01	Positive for Flu Virus	Completed	6	25.00
	3	2	3	2024-12-02	Normal	Completed	7	100.00
	4	3	4	2024-12-03	No Abnormalities Found	Completed	4	30.00
	5	4	5	2024-12-04	Elevated Blood Pressure	Completed	9	200.00
	6	5	6	2024-12-05	Negative for Infection	Completed	2	150.00
	7	5	7	2024-12-06	Normal	Completed	7	75.00
	8	6	8	2024-12-07	No Abnormalities Found	Completed	3	50.00
	9	7	9	2024-12-08	High Cholesterol Detected	Completed	1	100.00
	10	8	10	2024-12-09	No Abnormalities Found	Completed	5	250.00
	11	8	11	2024-12-10	Normal	Completed	8	200.00
	12	9	12	2024-12-11	Elevated Glucose Levels	Completed	4	150.00
	13	10	13	2024-12-12	Elevated Risk of Heart Di...	Completed	3	120.00
	14	11	14	2024-12-13	Normal	Completed	7	300.00
	15	12	15	2024-12-14	Negative for Disease X	Completed	2	50.00
	16	13	16	2024-12-15	Requires Further Analysis	Completed	6	400.00
	17	14	17	2024-12-16	High Blood Pressure Dete...	Completed	9	450.00
	18	15	18	2024-12-17	No Abnormalities Found	Completed	1	2500.00
	19	16	19	2024-12-18	Normal	Completed	7	600.00
	20	17	20	2024-12-19	Elevated Risk for Stroke	Completed	3	120.00
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

12. Medications

SELECT * FROM Medications;

	medication_id	medication_name	dosage	medication_type	side_effects	cost
►	1	Amlodipine	5 mg	Oral	Dizziness, swelling of ankles or feet	23.69
	2	Lisinopril	10 mg	Oral	Cough, high potassium levels, dizziness	59.15
	3	Carvedilol	12.5 mg	Oral	Fatigue, low blood pressure, dizziness	34.68
	4	Doxorubicin	50 mg	Injection	Nausea, hair loss, heart damage	75.93
	5	Methotrexate	15 mg	Oral	Nausea, mouth sores, liver toxicity	85.65
	6	Tamoxifen	20 mg	Oral	Hot flashes, blood clots, fatigue	10.43
	7	Insulin	5 units	Injection	Low blood sugar, weight gain, allergic reactions	55.19
	8	Prednisone	20 mg	Oral	Weight gain, high blood pressure, mood swings	54.68
	9	Epinephrine	0.3 mg	Injection	Anxiety, palpitations, dizziness	97.81
	10	Ibuprofen	200 mg	Oral	Upset stomach, dizziness, kidney issues	45.01
	11	Fentanyl	50 mcg/hr	Patch	Drowsiness, constipation, nausea	11.63
	12	Lorazepam	1 mg	Oral	Drowsiness, dizziness, fatigue	93.14
	13	Benzonatate	100 mg	Oral	Drowsiness, dizziness, headache	60.79
	14	Hydrocodone	5 mg	Oral	Constipation, nausea, dizziness	14.52
	15	Nitroglycerin	0.3 mg	Sublingual	Headache, dizziness, low blood pressure	60.23
	16	Sildenafil	50 mg	Oral	Headache, flushing, indigestion	67.60
	17	Salbutamol	2.5 mg	Inhaler	Tremors, headache, fast heartbeat	57.32
	18	Simvastatin	20 mg	Oral	Muscle pain, liver damage, nausea	73.77
	19	Amoxicillin	500 mg	Oral	Rash, diarrhea, nausea	96.91
	20	Azithromycin	250 mg	Oral	Nausea, diarrhea, abdominal pain	73.24
	21	Adalimumab	40 mg	Injection	Injection site reactions, upper respiratory infe...	65.46
	22	Levetiracetam	500 mg	Oral	Drowsiness, dizziness, behavioral changes	97.60
	23	Carbamazepine	200 mg	Oral	Drowsiness, dizziness, nausea	11.61
	24	Methadone	5 mg	Oral	Drowsiness, constipation, dizziness	25.24
	25	Furosemide	40 mg	Oral	Dizziness, dehydration, low potassium	81.36
	26	Enoxaparin	40 mg	Injection	Bleeding, headache, dizziness	51.10
	27	Ceftriaxone	1 gm	Injection	Diarrhea, rash, allergic reactions	91.43
	28	Methylprednisol...	4 mg	Oral	Weight gain, stomach ulcers, fluid retention	23.85
	29	Tamsulosin	0.4 mg	Oral	Dizziness, abnormal ejaculation, headache	14.93
	30	Rivaroxaban	20 mg	Oral	Bleeding, stomach pain, dizziness	83.12
	31	Amoxicillin	250 mg	Oral	Rash, diarrhea, nausea	90.83
	32	Tylenol	160 mg...	Oral	Nausea, stomach pain, allergic reactions	14.76
	33	Ibuprofen	100 mg	Oral	Upset stomach, dizziness, kidney issues	61.32
	34	Prednisone	5 mg	Oral	Weight gain, high blood pressure, mood swings	72.33
	35	Fluconazole	100 mg	Oral	Headache, nausea, stomach pain	77.67
	36	Montelukast	4 mg	Oral	Stomach pain, headache, dizziness	71.38
	37	Ranitidine	75 mg	Oral	Headache, constipation, nausea	23.89
	38	Doxorubicin	50 mg	Injection	Nausea, hair loss, heart damage	75.30
	39	Methotrexate	15 mg	Oral	Nausea, mouth sores, liver toxicity	24.84

79	Levofloxacin	500 mg	Oral	Dizziness, nausea, tendinitis	99.27
80	Azithromycin	250 mg	Oral	Diarrhea, nausea, abdominal pain	40.59
81	Rifampin	10 mg/kg	Oral	Liver damage, red-orange urine, nausea	75.12
82	Metronidazole	500 mg	Oral	Nausea, headache, metallic taste	63.86
83	Methotrexate	7.5 mg	Oral	Nausea, mouth sores, liver toxicity	83.91
84	Hydroxychloroq...	200 mg	Oral	Headache, nausea, visual disturbances	37.98
85	Sulfasalazine	500 mg	Oral	Upset stomach, rash, diarrhea	18.17
86	Etanercept	50 mg	Injection	Injection site reactions, headache, dizziness	56.91
87	Adalimumab	40 mg	Injection	Injection site reactions, upper respiratory infe...	40.04
88	Azathioprine	50 mg	Oral	Nausea, liver toxicity, low blood cell count	19.48
89	Leflunomide	20 mg	Oral	Diarrhea, rash, liver toxicity	57.29
90	Abatacept	125 mg	Injection	Headache, injection site reactions, infections	37.99
91	Tocilizumab	162 mg	Injection	Headache, high blood pressure, diarrhea	98.07
92	Anakinra	100 mg	Injection	Injection site reactions, headache, nausea	96.37
93	Losartan	50 mg	Oral	Dizziness, upper respiratory infections, back pain	87.66
94	Furosemide	40 mg	Oral	Dizziness, dehydration, low potassium	49.19
95	Erythropoietin	1000 IU	Injection	Headache, joint pain, fever	62.97
96	Calcium Carbonate	500 mg	Oral	Constipation, stomach upset	67.28
97	Alfacalcidol	0.25 mcg	Oral	Hypercalcemia, nausea, dizziness	47.48
98	Tacrolimus	1 mg	Oral	Headache, nausea, kidney toxicity	25.57
99	Sevelamer	800 mg	Oral	Nausea, diarrhea, stomach pain	65.39
100	Cinacalcet	30 mg	Oral	Nausea, vomiting, low blood calcium	60.25
101	Lanthanum Carb...	500 mg	Oral	Diarrhea, nausea, abdominal pain	95.09
102	Mycophenolate ...	500 mg	Oral	Diarrhea, nausea, vomiting	14.69

13. Prescriptions

```
SELECT * FROM Prescriptions;
```

[illegible]

14. Procedures

SELECT * FROM Procedures;

	procedure_id	procedure_name	dept_name	floor_no	procedure_type	cost
▶	1	General Check-up	Outpatient Clinics	0	Diagnostic	200.00
	2	Flu Treatment	Urgent Care	0	Therapeutic	150.00
	3	Wound Care	Urgent Care	0	Therapeutic	300.00
	4	Trauma Surgery	Emergency Department (ER)	0	Surgical	12000.00
	5	Cardiac Arrest Resuscitation	Emergency Department (ER)	0	Therapeutic	5000.00
	6	Thyroid Function Test	Endocrinology	1	Diagnostic	500.00
	7	Joint Injection	Rheumatology	1	Therapeutic	800.00
	8	Spirometry	Pulmonology	1	Diagnostic	400.00
	9	Electrocardiogram (ECG)	Cardiology	1	Diagnostic	300.00
	10	Dialysis	Nephrology	1	Therapeutic	3000.00
	11	Skin Biopsy	Dermatology	1	Diagnostic	1500.00
	12	HIV Screening	Infectious Disease	1	Diagnostic	300.00
	13	Colonoscopy	Gastroenterology	1	Diagnostic	2500.00
	14	Brain Tumor Surgery	Neurosurgery	2	Surgical	15000.00
	15	Appendectomy	General Surgery	2	Surgical	5000.00
	16	Coronary Artery Bypass	Cardiothoracic Surgery	2	Surgical	25000.00
	17	Spinal Fusion Surgery	Orthopedic Surgery	2	Surgical	12000.00
	18	Cosmetic Rhinoplasty	Plastic Surgery	2	Surgical	6000.00
	19	Mammogram	Breast Health	3	Diagnostic	800.00
	20	Pap Smear	Gynecology (GYN)	3	Diagnostic	150.00
	21	Prenatal Care	Obstetrics (OB)	3	Consultation	500.00
	22	IVF (In-vitro Fertilization)	Reproductive Medicine	3	Therapeutic	12000.00
	23	Breast Cancer Surgery	Breast Health	3	Surgical	10000.00
	24	Blood Test	Clinical Laboratory	4	Diagnostic	150.00
	25	Genetic Counseling	Genetics	4	Consultation	400.00
	26	Biopsy	Pathology	4	Diagnostic	2000.00
	27	X-ray	Radiology	4	Diagnostic	500.00
	28	MRI Scan	Radiology	4	Diagnostic	2000.00
	29	Detoxification	Addiction Medicine	5	Therapeutic	3500.00
	30	Cognitive Testing	Neuropsychology	5	Diagnostic	1200.00
	31	Psychiatric Evaluation	Psychiatry	5	Consultation	500.00
	32	Cognitive Behavioral Thera...	Psychology	5	Therapeutic	100.00
	33	Substance Abuse Counseling	Addiction Medicine	5	Therapeutic	250.00
	34	Post-Operative Care	Cardiac ICU (CICU)	6	Therapeutic	3000.00
	35	Ventilator Management	Intensive Care Unit (ICU)	6	Therapeutic	5000.00
	36	Pediatric Intensive Care	Pediatric ICU (PICU)	6	Therapeutic	4500.00
	37	Anesthesia Recovery	Post-Anesthesia Care Unit (...)	6	Therapeutic	1000.00
	38	Neonatal Ventilator Support	Neonatal ICU (NICU)	6	Therapeutic	4000.00
	39	Post-Surgical Rehabilitation	Physical Therapy (PT)	7	Therapeutic	500.00

	40	Occupational Therapy Asse...	Occupational Therapy (OT)	7	Consultation	350.00
	41	Neurological Rehabilitation	Rehabilitation Medicine	7	Therapeutic	1000.00
	42	Speech Therapy for Stroke ...	Speech Therapy	7	Therapeutic	300.00
	43	Joint Rehabilitation	Physical Therapy (PT)	7	Therapeutic	600.00
	44	Bone Marrow Transplant	Bone Marrow/Stem Cell Tra...	8	Surgical	50000.00
	45	Chemotherapy	Oncology	8	Therapeutic	10000.00
	46	Blood Cancer Consultation	Hematology	8	Consultation	800.00
	47	Palliative Care Consultation	Palliative Care	8	Consultation	1000.00
	48	Radiation Therapy for Cancer	Radiation Therapy	8	Therapeutic	15000.00
	49	Hemodialysis	Dialysis Unit	9	Therapeutic	3500.00
	50	Kidney Transplantation	Kidney Transplantation	9	Surgical	30000.00
	51	Liver Transplantation	Liver Transplantation	9	Surgical	50000.00
	52	Peritoneal Dialysis	Dialysis Unit	9	Therapeutic	4000.00
	53	Post-Transplant Care	Kidney Transplantation	9	Therapeutic	5000.00
*	NULL	NULL	NULL	NULL	NULL	NULL

15. Patient_procedures

SELECT * FROM Patient_procedures;

	procedure_record_id	patient_id	procedure_id	procedure_date	procedure_notes	assigned_doctor_id	procedure_status	cost
▶	1	1	4	2024-11-29	Trauma Surgery: Patient admitted to the Emerg...	3	Admitted	12000.00
	2	1	2	2024-12-01	Flu Treatment: Patient admitted to Urgent Care...	6	Admitted	150.00
	3	2	5	2024-12-03	Cardiac Arrest Resuscitation: Patient admitted t...	7	Admitted	5000.00
	4	3	5	2024-12-04	Cardiac Arrest Resuscitation: Continued manag...	4	Discharged	5000.00
	5	4	9	2024-12-07	Dialysis: Patient admitted to Dialysis Unit for he...	9	Admitted	300.00
	6	5	2	2024-12-05	Flu Treatment: Patient admitted to Urgent Care...	2	Admitted	150.00
	7	5	5	2024-12-08	Cardiac Arrest Resuscitation: Follow-up treatme...	7	Discharged	5000.00
	8	6	4	2024-12-08	Trauma Surgery: Patient admitted to the ER for...	3	Admitted	12000.00
	9	7	1	2024-12-09	General Check-Up: Patient admitted for routine ...	1	Admitted	200.00
	10	8	6	2024-12-11	Thyroid Function Test: Patient admitted to Endo...	8	Admitted	500.00
	11	9	10	2024-12-10	Dialysis: Patient admitted to Nephrology for he...	9	Discharged	3000.00
	12	10	18	2024-12-13	Spinal Fusion Surgery: Patient admitted to Orth...	10	Discharged	6000.00
	13	11	18	2024-12-14	Cosmetic Rhinoplasty: Patient admitted to Plast...	11	Discharged	6000.00
	14	12	9	2024-12-16	MRI Scan: Patient admitted to Radiology for MR...	12	Discharged	300.00
	15	13	7	2024-12-17	Neurological Rehabilitation: Patient admitted to ...	13	Discharged	800.00
	16	14	8	2024-12-18	Spirometry: Patient admitted to Pulmonology fo...	14	Discharged	400.00
	17	15	8	2024-12-19	Chemotherapy: Patient admitted to Oncology f...	15	Discharged	400.00
	18	16	8	2024-12-17	Palliative Care: Patient admitted to Palliative Ca...	16	Discharged	400.00
	19	17	12	2024-12-21	Pap Smear: Patient admitted to Gynecology for ...	17	Admitted	300.00
	20	18	13	2024-12-21	Brain Tumor Surgery: Patient admitted to Neuro...	18	Admitted	2500.00
•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

16. Billing

SELECT * FROM billing;

	billing_id	patient_id	admission_id	amount	payment_status	payment_date	payment_method
▶	1	1	1	12302.67	Completed	2024-11-29	Credit Card
	2	1	2	1029.66	Completed	2024-12-01	Cash
	3	2	3	5791.61	Completed	2024-12-02	Insurance
	4	3	4	1237.06	Completed	2024-12-03	Credit Card
	5	4	5	6155.54	Completed	2024-12-04	Debit Card
	6	5	6	529.60	Completed	2024-12-05	Cash
	7	5	7	5625.40	Completed	2024-12-06	Insurance
	8	6	8	12154.41	Completed	2024-12-07	Credit Card
	9	7	9	1080.72	Completed	2024-12-08	Cash
	10	8	10	1792.20	Completed	2024-12-09	Debit Card
	11	9	11	3526.57	Completed	2024-12-10	Insurance
	12	10	12	6950.12	Completed	2024-12-11	Cash
	13	11	13	6943.28	Completed	2024-12-12	Credit Card
	14	12	14	543.01	Completed	2024-12-13	Debit Card
	15	13	15	2207.37	Completed	2024-12-14	Insurance
	16	14	16	1255.30	Completed	2024-12-15	Credit Card
	17	15	17	3663.68	Completed	2024-12-16	Cash
	18	16	18	1478.18	Completed	2024-12-17	Debit Card
	19	17	19	1434.46	Completed	2024-12-18	Insurance
	20	18	20	5728.95	Completed	2024-12-19	Cash
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Intermediate Queries :

- **17. Retrieve the total number of patients admitted to each department:**

```
SELECT dept_name, COUNT(patient_id) AS total_patients
```

```
FROM admissions
```

```
GROUP BY dept_name
```

```
ORDER BY total_patients DESC;
```


	dept_name	total_patients
►	Primary Care Services	3
	Emergency Department (ER)	2
	Urgent Care	2
	Cardiology	1
	Dialysis Unit	1
	Endocrinology	1
	Gynecology (GYN)	1
	Nephrology	1
	Neurosurgery	1
	Oncology	1
	Orthopedic Surgery	1
	Outpatient Clinics	1
	Palliative Care	1
	Plastic Surgery	1
	Pulmonology	1
	Radiology	1

- **18. Get the number of appointments scheduled for each doctor:**

```
SELECT d.doc_name, COUNT(a.appointment_id) AS
total_appointments
```

```
FROM doctors d
```

```
LEFT JOIN appointments a ON d.doc_id = a.doc_id
```

```
GROUP BY d.doc_name
```

```
ORDER BY total_appointments DESC;
```

	doc_name	total_appointments
►	Dr. George Moore	10
	Dr. Charles Wilson	9
	Dr. Fiona Turner	8
	Dr. Laura Lee	7
	Dr. Beatrice Clark	7
	Dr. Diana Brown	7
	Dr. Kevin White	7
	Dr. Edward Adams	6
	Dr. Alan Smith	5
	Dr. Mike Jackson	0
	Dr. Nancy Cooper	0
	Dr. Oliver Turner	0
	Dr. Paula Mitchell	0
	Dr. Quentin Carter	0
	Dr. Ursula Harris	0
	Dr. Victor Davis	0
	Dr. William White	0
	Dr. Xavier Moore	0
	Dr. Yvonne Johnson	0
	Dr. Zachary Adams	0
	Dr. Alan Cooper	0
	Dr. Edward King	0
	Dr. Fiona Green	0
	Dr. Gary Brown	0
	Dr. Helen Thomas	0
	Dr. Isabella Walker	0
	Dr. Jack Adams	0
	Dr. Karen Turner	0
	Dr. Liam Clark	0
	Dr. Maria King	0
	Dr. Nathan Harris	0
	Dr. Olivia White	0
	Dr. Paul Scott	0
	Dr. Quentin Brown	0
	Dr. Rebecca Adams	0
	Dr. Samuel Green	0
	Dr. Teresa Walker	0
	Dr. Ursula White	0
	Dr. Victor King	0

- **19. Get the count of patients admitted by each doctor:**

```

SELECT d.doc_name, COUNT(a.patient_id) AS total_patients
FROM doctors d
JOIN admissions a ON d.doc_id = a.attending_doctor_id
GROUP BY d.doc_name
ORDER BY total_patients DESC;

```

	doc_name	total_patients
►	Dr. Charles Wilson	2
	Dr. George Moore	2
	Dr. Laura Lee	2
	Dr. Fiona Turner	1
	Dr. Diana Brown	1
	Dr. Beatrice Clark	1
	Dr. Alan Smith	1
	Dr. Kevin White	1
	Dr. Mike Jackson	1
	Dr. Nancy Cooper	1
	Dr. Oliver Turner	1
	Dr. Paula Mitchell	1
	Dr. Quentin Carter	1
	Dr. Ursula Harris	1
	Dr. Victor Davis	1
	Dr. William White	1
	Dr. Xavier Moore	1

- **20. List all medications with their side effects that cost less than \$50:**

```

SELECT medication_name, side_effects, cost
FROM medications
WHERE cost < 50

```

ORDER BY cost DESC;

	medication_name	side_effects	cost
►	Furosemide	Dizziness, dehydration, low potassium	49.19
	Atorvastatin	Muscle pain, liver damage, nausea	48.35
	Alfacalcidol	Hypercalcemia, nausea, dizziness	47.48
	Dextromethorphan	Drowsiness, nausea, dizziness	46.17
	Ibuprofen	Upset stomach, dizziness, kidney issues	45.01
	Clopidogrel	Diarrhea, bleeding, nausea	42.08
	Azithromycin	Diarrhea, nausea, abdominal pain	40.59
	Adalimumab	Injection site reactions, upper respiratory infect...	40.04
	Abatacept	Headache, injection site reactions, infections	37.99
	Hydroxychloroquine	Headache, nausea, visual disturbances	37.98
	Tamoxifen	Hot flashes, blood clots, fatigue	36.27
	Carvedilol	Fatigue, low blood pressure, dizziness	34.68
	Paditaxel	Hair loss, nausea, neuropathy	34.48
	Bortezomib	Nausea, diarrhea, peripheral neuropathy	28.98
	Hydralazine	Headache, dizziness, rapid heart rate	28.11
	Vincristine	Hair loss, constipation, nerve damage	26.16
	Tacrolimus	Headache, nausea, kidney toxicity	25.57
	Methadone	Drowsiness, constipation, dizziness	25.24
	Methotrexate	Nausea, mouth sores, liver toxicity	24.84
	Ranitidine	Headache, constipation, nausea	23.89
	Methylprednisolone	Weight gain, stomach ulcers, fluid retention	23.85
	Amlodipine	Dizziness, swelling of ankles or feet	23.69
	Diphenhydramine	Drowsiness, dry mouth, dizziness	22.27
	Azathioprine	Nausea, liver toxicity, low blood cell count	19.48
	Amoxicillin	Rash, diarrhea, nausea	18.71
	Capecitabine	Hand-foot syndrome, nausea, fatigue	18.70
	Sulfasalazine	Upset stomach, rash, diarrhea	18.17
	Furosemide	Dizziness, dehydration, low potassium	17.31
	Tamsulosin	Dizziness, abnormal ejaculation, headache	14.93
	Tylenol	Nausea, stomach pain, allergic reactions	14.76
	Mycophenolate Mo...	Diarrhea, nausea, vomiting	14.69
	Hydrocodone	Constipation, nausea, dizziness	14.52
	Hydrocortisone	Burning, itching, irritation	11.83
	Fentanyl	Drowsiness, constipation, nausea	11.63
	Carbamazepine	Drowsiness, dizziness, nausea	11.61
	Tamoxifen	Hot flashes, blood clots, fatigue	10.43
	Methylprednisolone	Mood changes, weight gain, high blood sugar	10.29

- **21. List all floors and the number of departments they host:**

```
SELECT f.floor_no, COUNT(d.dept_name) AS total_departments  
FROM floors f  
LEFT JOIN departments d ON f.floor_no = d.floor_no  
GROUP BY f.floor_no;
```

	floor_no	total_departments
▶	0	4
	1	8
	2	5
	3	4
	4	4
	5	4
	6	5
	7	4
	8	5
	9	3

- **22. Find the average cost of procedures in each department**

```
SELECT dept_name, AVG(cost) AS avg_procedure_cost  
FROM procedures  
GROUP BY dept_name  
ORDER BY avg_procedure_cost DESC;
```

	dept_name	avg_procedure_cost
▶	Bone Marrow/Stem Cell Transplantation	50000.000000
	Liver Transplantation	50000.000000
	Cardiothoracic Surgery	25000.000000
	Kidney Transplantation	17500.000000
	Radiation Therapy	15000.000000
	Neurosurgery	15000.000000
	Reproductive Medicine	12000.000000
	Orthopedic Surgery	12000.000000
	Oncology	10000.000000
	Emergency Department (ER)	10000.000000
	Plastic Surgery	6000.000000
	Breast Health	5400.000000
	Intensive Care Unit (ICU)	5000.000000
	General Surgery	5000.000000
	Pediatric ICU (PICU)	4500.000000
	Neonatal ICU (NICU)	4000.000000
	Dialysis Unit	3750.000000
	Cardiac ICU (CICU)	3000.000000
	Nephrology	3000.000000
	Gastroenterology	2500.000000
	Pathology	2000.000000
	Addiction Medicine	1875.000000
	Dermatology	1500.000000
	Radiology	1250.000000
	Neuropsychology	1200.000000
	Palliative Care	1000.000000
	Post-Anesthesia Care Unit (PACU)	1000.000000
	Rehabilitation Medicine	1000.000000
	Hematology	800.000000
	Rheumatology	800.000000
	Physical Therapy (PT)	550.000000
	Obstetrics (OB)	500.000000
	Endocrinology	500.000000
	Psychiatry	500.000000
	Genetics	400.000000
	Pulmonology	400.000000
	Occupational Therapy (OT)	350.000000
	Cardiology	300.000000
	Infectious Disease	300.000000

Speech Therapy	300.000000
Urgent Care	225.000000
Outpatient Clinics	200.000000
Gynecology (GYN)	150.000000
Clinical Laboratory	150.000000
Psychology	100.000000

- **23. Find patients who have been assigned to more than one nurse**

```
SELECT patient_id, COUNT(DISTINCT nurse_id) AS total_nurses
FROM assigned_nurse
GROUP BY patient_id
HAVING total_nurses > 1;
```

	patient_id	total_nurses
▶	1	2
	5	2

- **24. Retrieve details of the doctors with no active appointments:**

```
SELECT d.doc_id, d.doc_name, d.specialty, d.dept_name
FROM doctors d
LEFT JOIN appointments a ON d.doc_id = a.doc_id
WHERE a.appointment_id IS NULL;
```

	doc_id	doc_name	specialty	dept_name
▶	10	Dr. Mike Jackson	Heart Disease	Cardiology
	11	Dr. Nancy Cooper	COPD Management	Pulmonology
	12	Dr. Oliver Turner	Dialysis	Nephrology
	13	Dr. Paula Mitchell	Digestive Disorders	Gastroenterology
	14	Dr. Quentin Carter	Arrhythmias	Cardiology
	15	Dr. Ursula Harris	Spinal Disorders	Neurosurgery
	16	Dr. Victor Davis	Joint Replacement	Orthopedic Surgery
	17	Dr. William White	Reconstructive Surgery	Plastic Surgery
	18	Dr. Xavier Moore	Hernia Repair	General Surgery
	19	Dr. Yvonne Johnson	Brain Tumors	Neurosurgery
	20	Dr. Zachary Adams	Spinal Surgery	Orthopedic Surgery
	21	Dr. Alan Cooper	Valve Replacement	Cardiothoracic Surgery
	22	Dr. Edward King	Breast Cancer Treatment	Breast Health
	23	Dr. Fiona Green	Menstrual Disorders	Gynecology (GYN)
	24	Dr. Gary Brown	Prenatal Care	Obstetrics (OB)
	25	Dr. Helen Thomas	Contraceptive Counseling	Gynecology (GYN)
	26	Dr. Isabella Walker	IVF	Reproductive Medicine
	27	Dr. Jack Adams	Infertility	Reproductive Medicine
	28	Dr. Karen Turner	Mammogram	Breast Health
	29	Dr. Liam Clark	Labor and Delivery	Obstetrics (OB)
	30	Dr. Maria King	Postpartum Care	Obstetrics (OB)
	31	Dr. Nathan Harris	Egg Freezing	Reproductive Medicine
	32	Dr. Olivia White	Cancer Diagnosis	Pathology
	33	Dr. Paul Scott	MRI Imaging	Radiology
	34	Dr. Quentin Brown	Blood Tests	Clinical Laboratory
	35	Dr. Rebecca Adams	Genetic Testing	Genetics
	36	Dr. Samuel Green	Microbiology	Clinical Laboratory
	37	Dr. Teresa Walker	CT Scans	Radiology
	38	Dr. Ursula White	Skin Cancer Diagnosis	Pathology
	39	Dr. Victor King	Hereditary Conditions	Genetics
	40	Dr. Wanda Johnson	Urine Tests	Clinical Laboratory
	41	Dr. Xavier Lee	X-Ray Imaging	Radiology
	42	Dr. Yasmin White	Autopsy Services	Pathology
	43	Dr. Zackary Moore	Post-Op Recovery	Cardiac ICU (CICU)
	44	Dr. Alice Brown	Critical Care	Intensive Care Unit (ICU)
	45	Dr. Brian Collins	Neonatal Care	Pediatric ICU (PICU)
	46	Dr. Clara Evans	Anesthesia Recovery	Post-Anesthesia Care Unit (PACU)
	47	Dr. Daniel Harris	Neonatal Care	Neonatal ICU (NICU)
	48	Dr. Emily Green	Heart Surgery Recovery	Cardiac ICU (CICU)

49	Dr. Frank Scott	Ventilator Support	Intensive Care Unit (ICU)
50	Dr. Gavin White	Rehabilitation Post-Surgery	Physical Therapy (PT)
51	Dr. Holly Brown	Musculoskeletal Rehabilitation	Occupational Therapy (OT)
52	Dr. Ian Davis	Neuro-Rehabilitation	Rehabilitation Medicine
53	Dr. Jack Turner	Speech Rehabilitation	Speech Therapy
54	Dr. Karen Lee	Post-Stroke Rehabilitation	Physical Therapy (PT)
55	Dr. Liam Scott	Post-Surgery Recovery	Rehabilitation Medicine
56	Dr. Monica Green	Swallowing Disorders	Speech Therapy
57	Dr. Nathan White	Stem Cell Therapy	Bone Marrow/Stem Cell Transplantation
58	Dr. Olivia King	Leukemia Treatment	Hematology
59	Dr. Peter Johnson	Radiation Therapy	Oncology
60	Dr. Quentin Lee	Cancer Radiation	Radiation Therapy
61	Dr. Rachel Turner	End-of-Life Care	Palliative Care
62	Dr. Steven Clark	Chemotherapy	Oncology
63	Dr. Tina Scott	Cancer Treatment	Oncology
64	Dr. Uma White	Chronic Kidney Disease	Dialysis Unit
65	Dr. Victor Brown	Kidney Transplant	Kidney Transplantation
66	Dr. William Green	Hemodialysis	Dialysis Unit
67	Dr. Xander Lee	Liver Transplant Surgery	Liver Transplantation
68	Dr. Yara Davis	Dialysis Support	Dialysis Unit
69	Dr. Zachary White	Kidney Transplant Care	Kidney Transplantation
70	Dr. Alexis King	Liver Care	Liver Transplantation

- **25. Find patients who have appointments but have not been admitted**

SELECT patient_id

FROM appointments

WHERE patient_id NOT IN (SELECT patient_id FROM admissions);

	patient_id
▶	19
	20
	21
	22
	23
	24
	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36
	37
	38
	39
	40
	41
	42
	43
	44
	45
	46
	47
	48
	48
	49
	49
	50
	51
	52
	52
	53
	54

Subqueries/Nested Queries :

- **26. Identify rooms where the average patient billing exceeds \$4,000**

```
SELECT room_id
FROM room
WHERE room_id IN (SELECT room_id
                  FROM admissions a
                  JOIN billing b ON a.patient_id = b.patient_id
                  GROUP BY room_id
                  HAVING AVG(b.amount) > 4000);
```

	room_id
▶	1
	2
	3
	4
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20
	5
★	HULL

- **27. Retrieve the list of procedures conducted in departments located on the floor with the maximum number of departments**

```
SELECT procedure_name, dept_name
```

```
FROM procedures
```

```
WHERE dept_name IN (SELECT dept_name
```

```
FROM departments
```

```
WHERE floor_no = (SELECT floor_no
```

```
FROM (SELECT floor_no, COUNT(*) AS dept_count
```

```

FROM departments

GROUP BY floor_no) AS subquery

ORDER BY dept_count DESC

LIMIT 1));

```

procedure_name	dept_name
Electrocardiogram (ECG)	Cardiology
Skin Biopsy	Dermatology
Thyroid Function Test	Endocrinology
Colonoscopy	Gastroenterology
HIV Screening	Infectious Disease
Dialysis	Nephrology
Spirometry	Pulmonology
Joint Injection	Rheumatology

- **28. Find patients who are assigned to more than one nurse and have had tests costing over \$100 :**

```

SELECT patient_id

FROM assigned_nurse

GROUP BY patient_id

HAVING COUNT(DISTINCT nurse_id) > 1

AND patient_id IN (SELECT patient_id

                    FROM individual_patient_tests

                    WHERE cost > 100);

```

	patient_id
▶	5

- **29. Find the patients assigned to nurses who have shifts in "Night"**

```
SELECT p.patient_id, CONCAT(p.first_name, ' ', p.last_name) AS  
full_name
```

```
FROM patients p
```

```
WHERE p.patient_id IN (SELECT patient_id
```

```
FROM assigned_nurse
```

```
WHERE shift_time LIKE '%Night%');
```

	patient_id	full_name
▶	1	John Doe
	4	Mary Brown
	6	Emma Jones
	9	William Garcia
	13	Joseph Taylor
	16	Amelia Lee

- **30. Find the floors that host more than 2 departments :**

```
SELECT floor_no, COUNT(dept_name) AS total_departments
```

```
FROM departments
```

```
GROUP BY floor_no
```

```
HAVING COUNT(dept_name) > (SELECT COUNT(*) FROM  
departments WHERE floor_no = 2);
```

	floor_no	total_departments
▶	1	8

This management system was designed for easy access and easy to use experience. Even though we can do many queries through these tables we can add more and make it even better, store more information and most importantly we can enhance the overall experience for our patients, doctors, staff/Nurse.

COMPLEX ENGINEERING PROBLEMS :

Mapping the Knowledge Profiles (Ks) to the Hospital Management System Project:

Level	Cognitive Level	Description	Key Action Verbs	Examples in Hospital Management System
K1	Remembering	Recall and recognize facts, terms, and concepts.	Define, List, Recall, Identify, Name, Describe	Listing the fields in a patients table or recalling the primary key of the admissions table.
K2	Understanding	Comprehend	Explain,	Explaining the

		and explain the meaning of concepts or processes.	Interpret, Summarize, Classify, Compare	relationship between doctors and departments or summarizing the purpose of appointments .
K3	Applying	Use information or methods in new or real-world situations.	Apply, Demonstrate, Use, Implement, Solve	Writing SQL queries to fetch patient data or update room availability based on discharge.
K4	Analyzing	Break down information into parts to understand relationships or patterns.	Analyze, Organize, Correlate, Distinguish, Investigate	Analyzing admission trends by department or identifying bottlenecks in room allocation.
K5	Evaluating	Make judgments based on criteria and evidence to determine validity or effectiveness	Evaluate, Judge, Critique, Recommend, Assess,	Evaluating the performance of query indexing strategies or critiquing the system's error-handling capabilities.

		SS.		
K6	Creating	Combine knowledge to create new solutions, products, or systems.	Design, Develop, Construct, Propose, Plan	Designing a new module for automating medication reminders or developing an improved reporting dashboard for hospital analytics.
K7	Innovating	Extend or redefine existing concepts or systems to introduce novel ideas or applications.	Innovate, Invent, Evolve, Enhance, Revolutionize	Innovating a predictive analytics system to forecast patient admissions based on seasonal trends or historical data.
K8	Leading/Strategizing	Provide visionary direction by	Strategize, Direct, Lead, Oversee,	Leading the design and implementation of

		integrating knowledge across domains to achieve large-scale objectives.	Pioneer	an enterprise-wide Hospital Management System to unify operations across multiple facilities.
--	--	---	---------	---

Mapping the Problem-Solving Attributes (Ps) to the hospital Management System Project :

Problem-Solving Attributes (Ps)	Attribute	How Ps are Addressed through the Project
P1	Data Management	Data is organized and structured in relational tables (e.g., patients, doctors, admissions) to ensure accuracy and efficient access for hospital operations..
P2	User Accessibility	The system is

		<p>designed to be accessible for various users (e.g., administrators, doctors, nurses, and patients), allowing for role-based access control</p>
P4	System Integration	<p>Different parts of the system (e.g., billing, appointments, prescriptions) are integrated to provide a seamless experience, ensuring efficient hospital operations.</p>
P6	Error Handling	<p>The system is designed to handle errors through validation checks (e.g., foreign key constraints, data integrity checks), minimizing data inconsistencies.</p>

P7	Efficiency in Workflow	The system is structured to automate workflows (e.g., appointments scheduling, billing, and patient monitoring) to reduce administrative overhead and improve efficiency.
-----------	-------------------------------	--

Mapping the Activities (As) to the Hospital Management System Project:

Activity (As)	Attribute	How As are Addressed through the Project
A1: Data Collection	Gathering Patient and Hospital Data	Data collection is handled through forms and inputs in the system (e.g., patients table for patient information, doctors table for doctor details,

		admissions for admission records). This ensures accurate and organized data capture.
A2: Data Validation	Ensuring Accurate and Complete Data	Validation rules and constraints are applied in the database schema (e.g., foreign keys , NOT NULL , CHECK constraints) to ensure the data entered in patients , doctors , billing tables, etc., is consistent and error-free.
A4: Data Retrieval	Extracting Information for Reporting and Analysis	The project provides search and reporting functionalities, where users can retrieve data from tables like patients , billing , and appointments . This information is used for administrative decision-making

		and patient care analysis.
A5: Data Update	Modifying Existing Information	Updates to the system are made whenever necessary. For example, updating patient records (e.g., patients table), changes in doctor assignments (e.g., assigned_nurse , appointments), or room assignments (room table).
A10: Payment Processing	Managing Patient Bills and Payments	The system handles billing by updating the billing table, which includes patient payments, status updates, and payment methods (cash, insurance, etc.). The system supports multiple payment methods and tracks the payment status.

A11: Scheduling	Scheduling Appointments, Procedures, and Tests	The project schedules various events like doctor appointments (appointments table), procedures (patient_procedures), and tests (individual_patient_tests), managing all related time and date data for efficient workflow.
------------------------	---	--

Drive link :

<https://drive.google.com/file/d/1ldJoIhP6r9VitvwpTkTzNrT0VElog-w1/view?usp=sharing>