HARSHITA UPPALPATI

Problem Statement

Efficient and accurate management of hospital operations is crucial for delivering timely and quality healthcare services. Traditional paper-based systems and fragmented digital records lead to data redundancy, delays, and increased chances of human error. Hospitals need a centralized digital solution that allows for the secure storage, retrieval, and management of patient data, medical history, appointments, treatments, billing, pharmacy stock, and staff details in a unified manner.

To address this,I have designed a relational database for a Hospital Management System that integrates all essential entities such as patients, doctors, appointments, medical history, diagnoses, treatments, billing, and staff. The system ensures data consistency, supports quick access to patient records, simplifies scheduling and billing, and allows for better tracking of medicine inventory and staff roles. This database lays the foundation for building scalable applications to streamline hospital workflows and improve healthcare quality.

ER Diagram

The ER diagram represents the relationship between core entities such as Patient, Doctor, Appointment, Treatment, and Billing. It shows how foreign keys link tables for integrity. This helps visualize how data is connected in the system

.

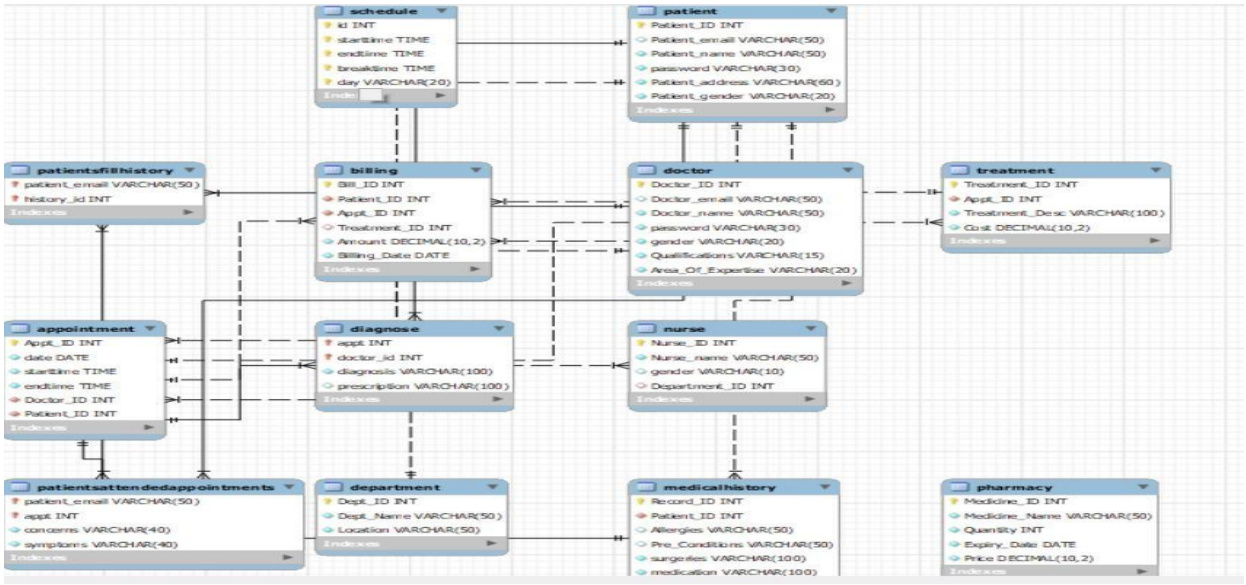
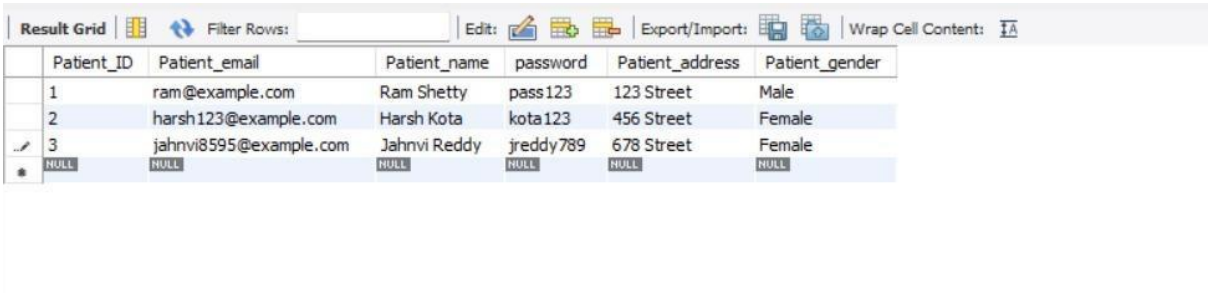


Table Descriptions and Screenshots

Patient Table

Description: Stores personal information of each patient such as name, contact, and address. Each patient has a unique ID and email.



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Patient_ID	Patient_email	Patient_name	password	Patient_address	Patient_gender
1	ram@example.com	Ram Shetty	pass123	123 Street	Male
2	harsh123@example.com	Harsh Kota	kota123	456 Street	Female
3	jahnvi8595@example.com	Jahnvi Reddy	jreddy789	678 Street	Female
NULL	NULL	NULL	NULL	NULL	NULL

Doctor Table

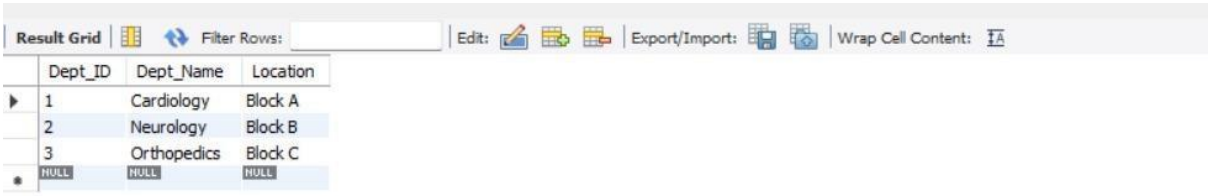
Description: Holds data related to hospital doctors including specialization, contact, and login credentials

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Doctor_ID	Doctor_email	Doctor_name	password	gender	Qualifications	Area_Of_Expertise
101	dr.prasad@example.com	Dr.Shiva Prasad	pass123	Male	MBBS	Cardiology
102	dr.paras@example.com	Dr.Paras Chhabra	pass456	Female	MD	Neurology
103	dr.rahul@example.com	Dr. Rahul Mehta	pass789	Male	MS	Orthopaedics
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Department Table

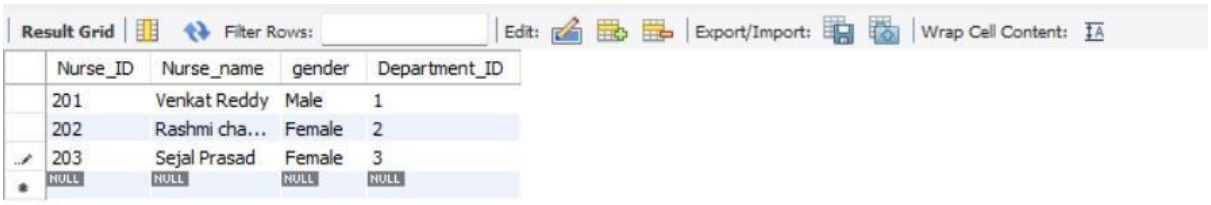
Description: Defines hospital departments like Cardiology, Neurology, etc., along with their location.



Dept_ID	Dept_Name	Location
1	Cardiology	Block A
2	Neurology	Block B
3	Orthopedics	Block C
NULL	NULL	NULL

Nurse Table

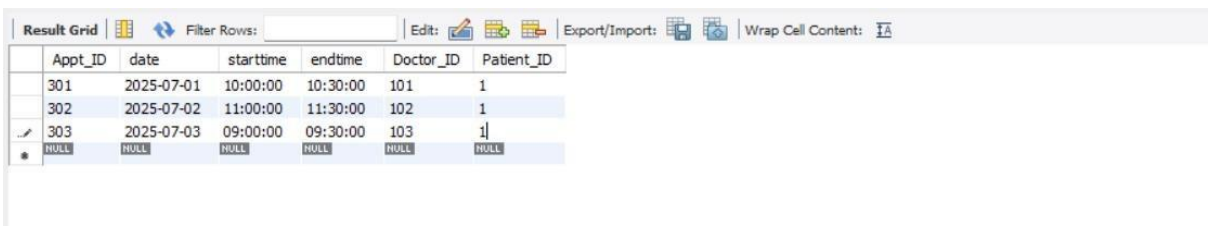
Description: Keeps track of nurses' details and their department assignment.



Nurse_ID	Nurse_name	gender	Department_ID
201	Venkat Reddy	Male	1
202	Rashmi cha...	Female	2
203	Sejal Prasad	Female	3
NULL	NULL	NULL	NULL

Appointment Table

Description: Manages scheduled appointments between patients and doctors with time slots.



Appt_ID	date	starttime	endtime	Doctor_ID	Patient_ID
301	2025-07-01	10:00:00	10:30:00	101	1
302	2025-07-02	11:00:00	11:30:00	102	1
303	2025-07-03	09:00:00	09:30:00	103	1
NULL	NULL	NULL	NULL	NULL	NULL

HOTEL MANAGEMENT SYSTEM