Hospital Database Creation and Data Migration

Problem Statement: Hospital Database Migration & Automation

Background:

"Our hospital has been maintaining all its records - -including patient details, doctor rosters, appointments, prescriptions, lab reports, and billing - using Excel file As our operations have scaled, this method has become inefficient, error-prone, and difficult to manage. We are now transitioning to a relational database system to improve data integrity, performance, and scalability.

Problem Description

We want you to build a robust and well-structured relational database system that captures all core functionalities of our hospital. From the data from our current Excel-based system take guide what tables to develop and this data should also be migrated into this new database, ensuring that data integrity and consistency

The database should also support business rules that govern how appointments are managed, how doctors can access patient data, and how department-wise revenue reports can be generated.

Problems You Need to Solve with Your Database Design

1. Lack of Unique Identifiers

- Currently, we have no guaranteed unique IDs for patients, doctors, departments, or appointments.
- Introduce something that ensures uniqueness.

2.Disconnected Relationships

- In Excel, appointments are listed, but there is no enforceable link to valid patients or doctors. Implement measures to maintain referential integrity between patients, doctors departments, and appointments.

3. Invalid or Ambiguous Data Entries

- For example, gender values like ", appointment statuses like "On Hold", and inconsistent date formats.

4. Unregulated Scheduling

- Doctors are occasionally double-booked, and appointments are being scheduled in the past
- Design and implement measures to automatically prevent invalid appointment entries during insertion.

5. Disconnected Reporting

- There's no way to generate billing or departmental summaries across the hospital.
- Implement a way that generates monthly revenue reports by department.