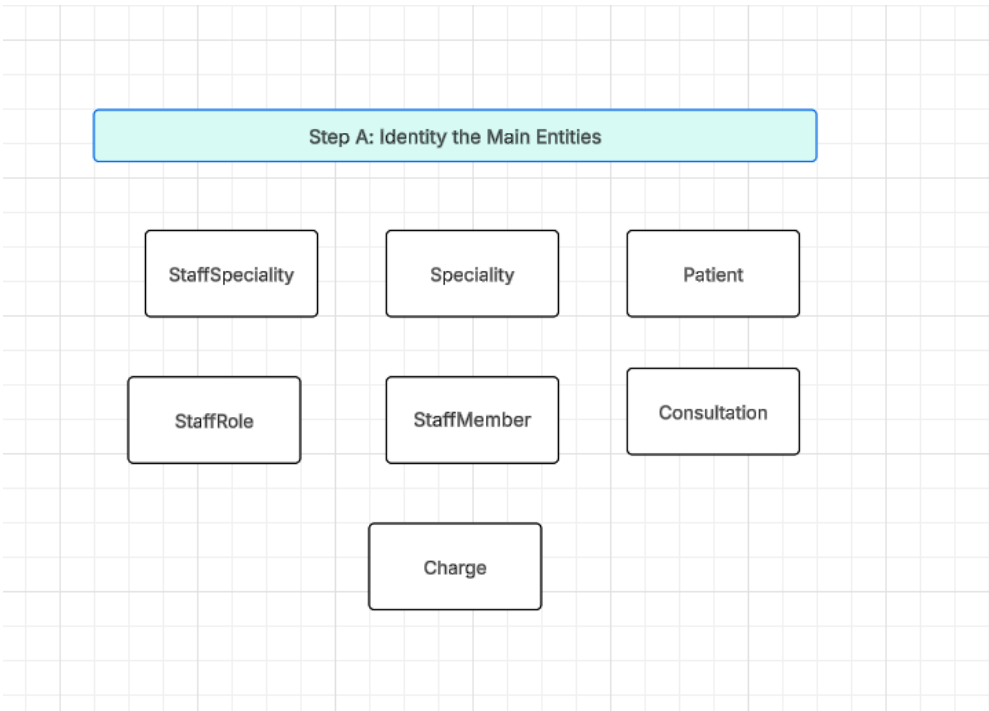
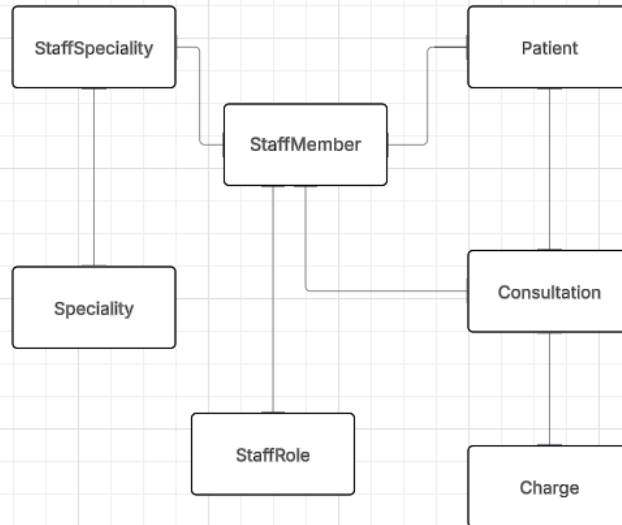


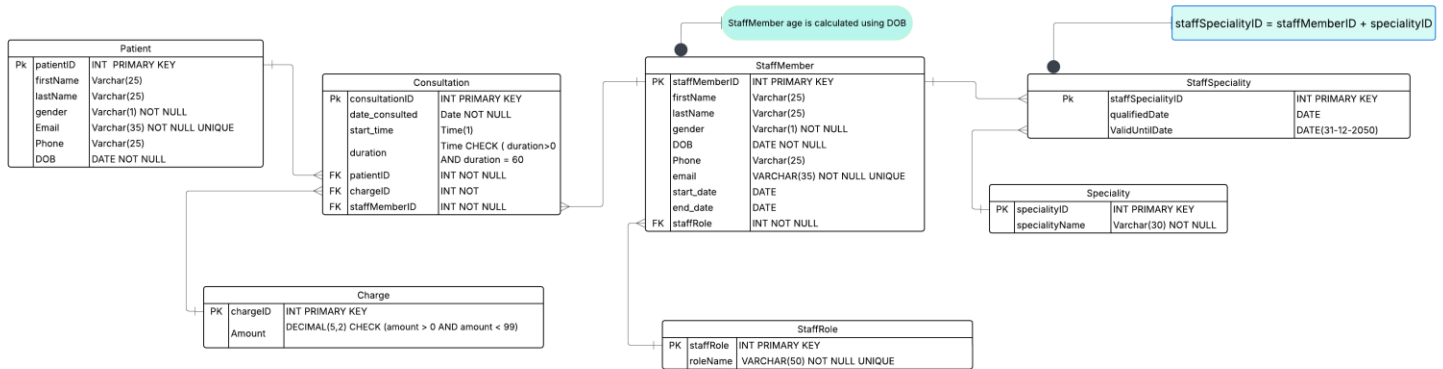
A list of identified entities and their attributes



Step B: Establish relationships between the Main Entities



Final Step: draw an ERD showing attributes, primary and foreign keys, (including cardinality). State Assumptions to support your design.



Business Rules that I achieved through Data Types & Constraints

- Consultation duration can't exceed 60 minutes: Time CHECK (duration>0 AND duration = 60
- Hourly rate can't exceed 99: DECIMAL(5,2) CHECK (amount > 0 AND amount < 99)
- Also, I have the input of gender both patients and staff
- Age of patients are stored in patient table same way staff table.
- Valid until date provided in StaffSpeciality table : DATE(31-12-2050)
- Start date and end date columns added in staffMember table for employment history tracking and payroll

- Finally, contract details of staff & patient columns is provided by SHARMA.

Explain which optimisation techniques were applied and the rationale behind their choices

I have resolved many to many relationship between Staff and Patient in Consultation table. Also, I created associate table which I called StaffSpeciality for StaffMember and specaility. This is because staff member can have many specialities and specaility can be assigned to many staff.

- staff member cannot have the same speciality more than once.
- It is important to store the Date the staff member qualified with their speciality
- Since some specialities require staff members to update their qualifications, it is important to store a “Valid Until Date”. Where the speciality does not have an expiry date, then set the date as the 31/12/2050

In this way, I have resolved complex relationships. As a result, I have reduced data redundancy, prevent duplication while maintaining data integrity and simplefing queries of the data and scalability.