

Assumptions:

- The date “2020-01-03” is chosen to be the day that all the queries are run in the code to showcase sample results for the queries, the code will use the “current_date” function otherwise.
- The threshold for the number of stocks in the daily purchase query was chosen to be 140 because we wanted to make sure that threshold is high enough to avoid inventory running out.
- Consumable and medication were assumed to be a type of inventory which could be one or the other, not both - therefore wasn't given separate tables to help ease of querying.
- Patients can have more than one allergies and some patients can have no allergies
- Patients can have more than one surgery and some can have no previous surgeries
- Each patient can only have one family doctor on record
- Appointments can be scheduled with doctors only between 9 a.m. and 6 p.m (clinic hours).

Justifications:

- Patient previous medical details (pat_detail) and patient allergy (pat_allergy) are in the same table in the logical schema. However, we denormalized it in the physical schema by creating different tables to remove redundancies. For example, some patients might not have allergies and some patients might not have any previous treatment/surgeries.
- Employee position history, medical employee skills, medical employee credentials are all in the same table in the logical schema. They were put into separate tables in the physical schema since they are multivalued attributes and also to remove redundancy.
- Both Inventory & Complaint have a (zero or many) relationship connecting to Inventory Use, as neither need to actually use any inventory to run.
- Employee is a supertype with Medical and Non-medical subtypes (an employee is either Medical or Non-medical, but not both at the same time).
- Inventory is a supertype, and every item of inventory can either be a consumable (e.g. syringes, needles used as treatment during an appointment) or medication (a specific type of drug).
- Multiple appointments table (multiple_appt) was included to show that one complaint can be addressed in more than one appointment, and one appointment can also address one or many complaints.
- Inventory Use (inventory_use) table is to measure the usage of inventory (medication or consumable or both) for a complaint and help update the num_stock in inventory table.