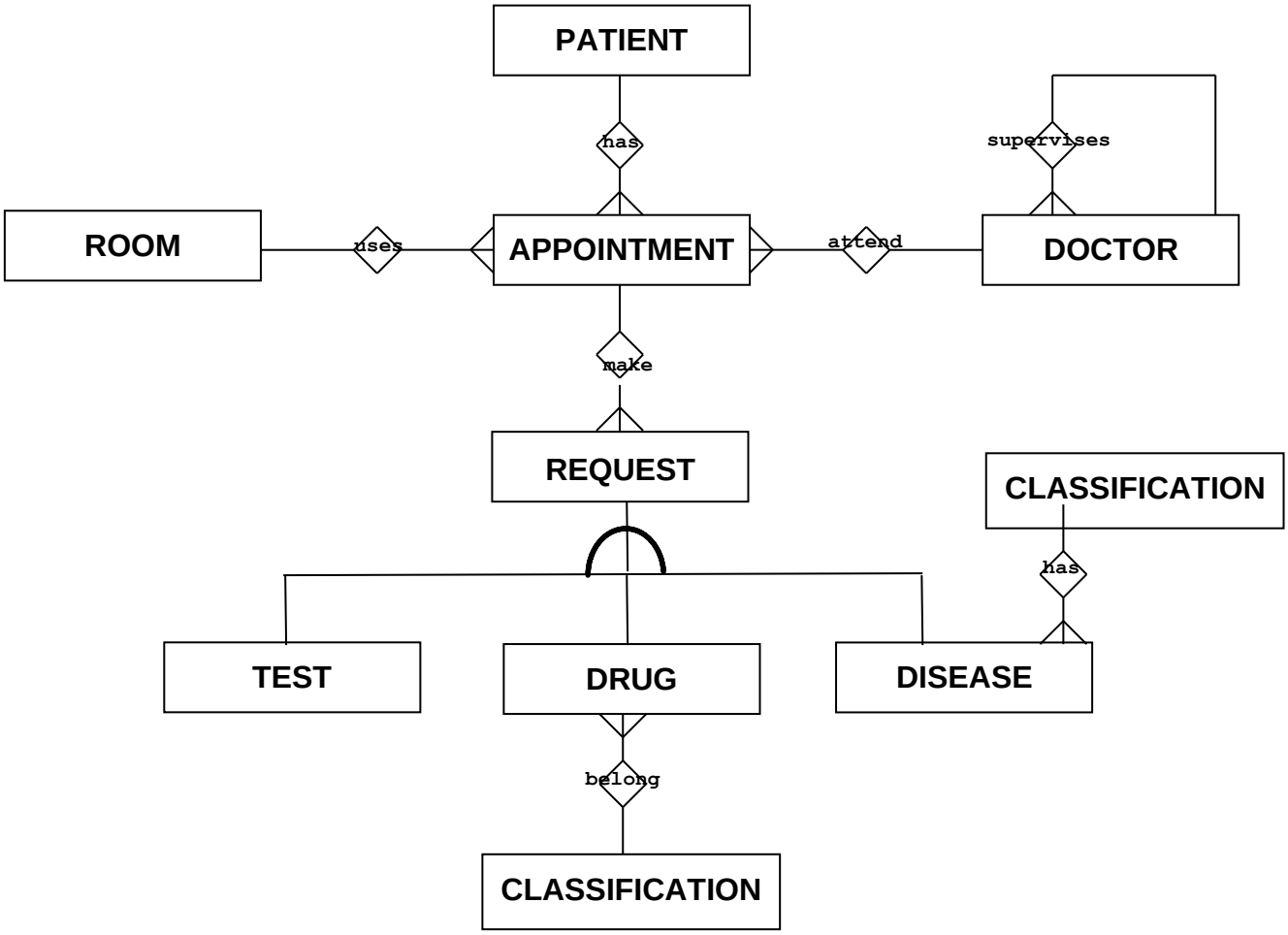
Relational Model

DOCTOR	PATIENT	APPOINTMENT	DISEASE	REQUEST
DoctorID	PatientID	AppointmentID	DiseaseID	RequestID
Surname	Surname	dateOfAppointment	diseaseName	AppointmentID
Given	Given	timeOfAppointment	ClassificationID	requestType
Dob	Dob	Done		DiseaseID
Sex	Sex	PatientID	TEST	TestID
Joined	Phone	DoctorID	TestID	DrugID
Resigned	Occupation	RoomNo	Name	
Address	BloodType			
Suburb	Address	ROOM	DRUG	CLASSIFICATION
Postcode	Suburb	RoomNo	DrugID	ClassificationID
Phone	State	RoomName	itemCode	Name
SupervisorID	Postcode	Level	drugName	
	Email	Facility*	longName	MANUFACTURER
			Restriction	manufacturerCode
			Repeats	Name
			manufacturerCode	Address
				Phone

Entity-Relationship Diagram



BR: request type is T-test; D-diagnosis; P-prescription; these dictates which entity is connected TEST/DISEASE/DRUG

SPECIFICATIONS

Read the following questions carefully. You will be asked to specify SQL queries to answer them.

QUESTIONS

You will be working with a set of tables for a Doctor's Clinic. You can access these tables by using the CLINIC database on the MySQL server (mo.its.rmit.edu.au). You are to prepare 12 SQL query statements that will provide answers to the following 12 requests for information.

(1 marks)

1. Create a view called "todays_appointments". The view should list all appointments for the current day. Include the appointment date and time, the doctor's name, the patient's name and phone number, and done field. Order the view into doctor's name, then order by the appointment time.
2. Show a list of appointments for March 2022. Provide the doctor and patients full name, disease name (if any diagnosed), date & time of appointment together in this format 'YYYY-MON-DD HH:MM', consultant room number used, and status (i.e., Done). Show these appointments in date & time order. (Note: bonus 1 mark (not increasing total past 15 for this assignment) if you can cater for "any diagnosed" disease including no diagnoses for an appointment, i.e., no disease name)
3. List all appointments made by patients in the suburb RICHMOND, during the 2021 year that have not been diagnosed with any diseases. Show the name of the patient and the date and time of the appointment.
4. Display the name of the male patient(s) and their age, who is/are the oldest and youngest on record in the clinic database.
5. Show a list of the consultation room numbers, along with a count of the number of times they have been used for an appointment (don't count the appointments that have not been completed/done). Show the room number, name of room and the appointment usage count.
6. Generate a list of all the appointments where the doctor has diagnosed more than 5 diseases. Show the full name of the patient and doctor (Add "Dr" title to start of doctor's full name), the date of the appointment, the room number in which the consultation was in and the number of diagnosed diseases during that appointment. Please show this data in doctor surname and then date of appointment order.
7. List all disease names and a count of how many times each disease has been diagnosed at the clinic. The list is of rarely identified diseases, so show only diseases that have a diagnosis count of less than 10. Note: Zero is less than 10.
8. Show all the patients that have visited (i.e., a visit is ONE appointment) the clinic more than 130 times. Show the full name of the patient, also show the number of visits, unique tests ordered, unique diseases diagnosed and unique drugs prescribed for each patient. Please order it by surname.
9. Need to create a Easter card address list. Generate a query that includes both patients and doctor's data. Show the ID (patientID or doctorID), concatenate a "P" in front of patientIDs and a "D" in front of doctorIDs, full name (add "Dr" title to start of given), address, suburb, postcode. Sort list into suburb and then name order. Only select patients that have been a patient (have an appointment) at the clinic in 2022, and only doctors that have seen a patient in the clinic in 2022.

10. List all female doctors, that are ether active or have resigned, that have worked in the clinic between 1 and 12 years. Show the name of the doctor and the name of their supervisor and the years worked.

11. The following two queries are related.
    a) Create a view that shows a count of appointments that each doctor has attended. The view should have the following fields: doctor's id and count of appointments.
    b) Using the view in the previous question, show the doctor that has the minimum and maximum number of appointments. Show the name of the doctor.

12. Choose one questions (from questions 1-11 of this assignment) and create a visualisation, using a tool like Excel, Power BI, Tableau or Orange. Attach the created image ONLY to your submission. The visualisation will be judged on how well it represents the question chosen, how clear the various axis and legends are label, and the appropriateness of the title of the visualisation. Feel free to tweak the output of the query to improve visualisation you want to generate.

(3 marks)

13. Produce a report of your own design and write a query to solve it. Marks will be awarded for report design (i.e., How useful is the report), complexity of the query and originality. Please provide:
    a) Business question
    b) SQL query
    c) Visualisation (using a tool like Excel, Tableau or Orange) - attached image only to submission

Note: you cannot use the MySQL LIMIT operator because it is NOT standard SQL.