

Medical Informatics: Tutorial 2

Relational modelling

- Please attempt all questions on this worksheet in advance of the tutorial, and bring with you all work. Tutorials cannot function properly unless you do the work in advance.
- You are welcome to bring along any questions you may have, e.g. from the lectures.
- Assessment is formative, meaning that tutorials do not contribute to your final grade.

Introduction

In this tutorial you are asked to map a simpler version of the ER model that you created in the previous tutorial to a relational model. The resulting database is going to be used to keep track of patients, their GPs and drugs prescribed by the GPs to their patients.

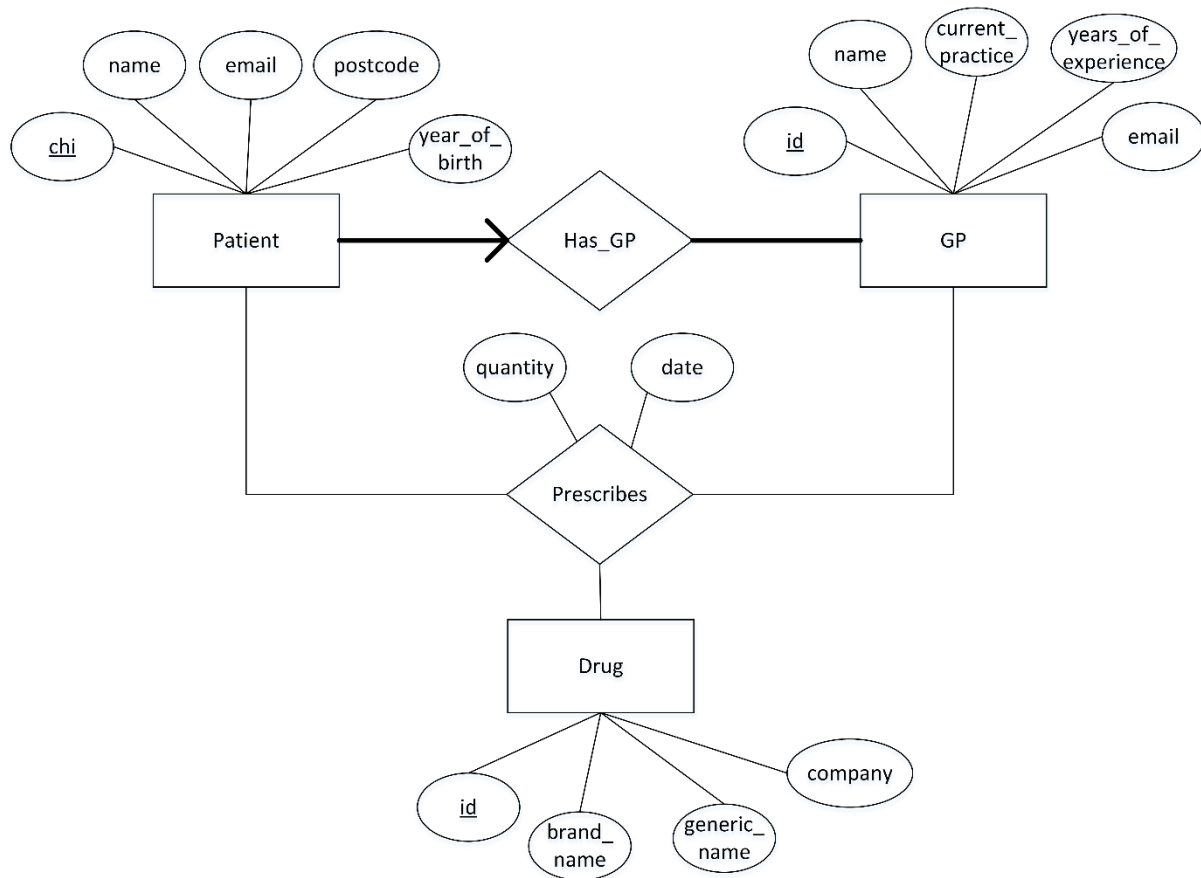
Question 1: Troubleshooting table declarations

There are 4 syntactic mistakes in the following table declaration. Can you spot them?

```
CREATE TABLE HospitalStay (  
  patientId      CHAR(10),  
  roomId         INTEGER  
  from          DATE,  
  to             DATE,  
  PRIMARY KEY (stayId),  
  FOREIGN KEY (patientId) REFERENCES Patient,  
  FOREIGN KEY roomId REFERENCES Room
```

Question 2: Mapping the ER model to the relational model

You've been given the following ER diagram and you've been asked to transform it into the relational model. How would you map the different relationship and the entity sets to tables in a relational model? Write down the declarations of all tables in DDL, making sure you include primary and foreign key constraints.



Things to think about:

- How would you map each entity set?
- How would you map each relationship set?
- What are the primary keys of each relation?
- What foreign keys should be declared for each relation, if any?