DBS1 Assignment 2

This assignment is about EER Diagrams, Relational Schema, GR Diagrams, and DDL.

Please note:

Your answers to Exercise 1 and Exercise 2 must all be combined into a single pdf document and be handed in. Remember to clearly mark which exercise your answers are for.

Additionally, all SQL code from Exercise 2 must also be stored in one .sql file, that must also be handed in.

Exercise 1 – EER

DBU (Dansk Boldspil Union) is planning on digitalizing their data and for that, they need a database.

However, they want to start small and then expand if the initial prototype is a success. They have given the below description of the part of their information, they want to start out with.

Description from customer:

We want to store data about soccer teams, players, their stadiums, and the matches played between the teams.

A soccer team has a unique name, and a ranking, and their shirt has multiple colors. The team have their home field at a specific stadium, identified by a name, and we are interested in the address and number of seats in the stadium.

A match is played between two teams. We need the time, date and which stadium. We need how many goals the home team and the away team scored, and how many overtime minutes were added to the match. And we also need to easily see which team won the match.

A team consists of players, also for these players we need first and last name, salary, and which number their shirt has. Depending on the players position on the field, we need a few extra pieces of information for statistics purposes: we need to keep track of how many goals the goal keeper saved, and the attacker scored, in a season. We have had some rough matches, and we need to see if there is a violent tendency amongst some of the players. To do that we need the number of red and yellow cards for the defenders.

Finally, we want to know which player scored goals in the matches, and at which match minute count the goal was scored.

Your task:

1.a

Draw an EER diagram based on the above description.

1.b

In this exercise, you must take your EER diagram from exercise 1.a above, and map it to a relational schema, using the 9 steps.

1.c

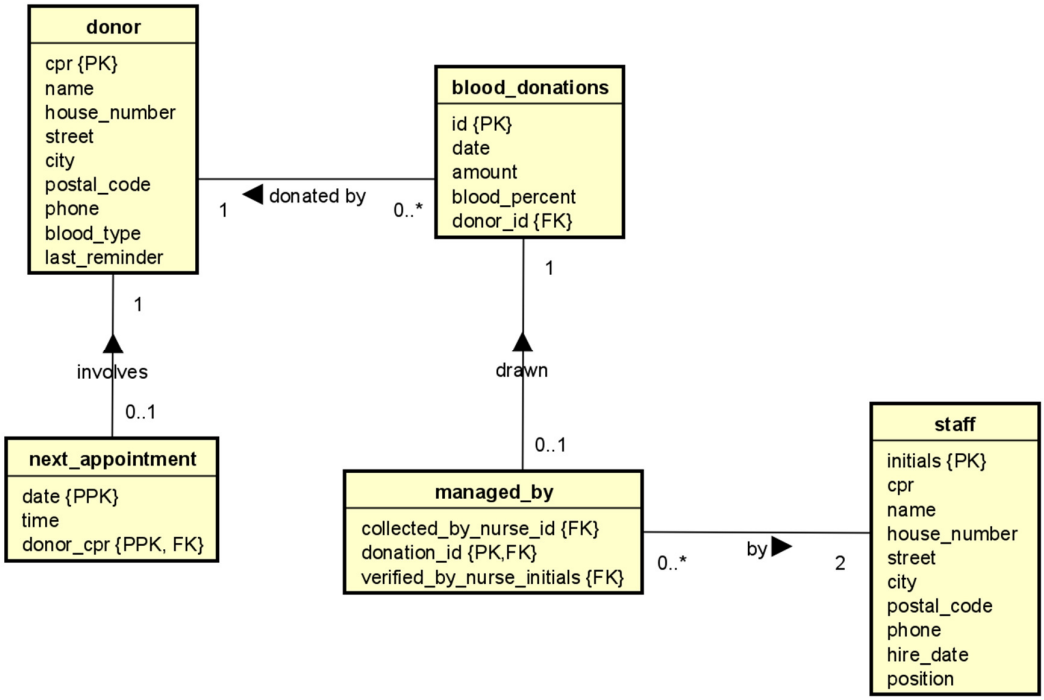
Draw the Global Relations Diagram based on the relational schema you made in 1.b.

Exercise 2 – GR to DDL

The blood bank of Horsens is in the process of digitalizing their data. They have started, but need you to finish the task.

2.a

The below is a Global Relations Diagram. Based on this, and the comments below, implement the corresponding DDL code.



Notes:

donor

cpr: This is string of length 10.

name: The full name of the donor

blood_type: This is a max 3-character code, with the possible values of: O-, O+, B-, B+, A-, A+, AB-, AB+

last_reminder: This is the date when the latest reminder was sent to the donor to make an appointment.

blood_donations

id: this should be an auto incrementing integer.

amount: this is the number of ml of blood drawn, it is between 300 and 600 ml. No decimals are needed.

blood_percent: the blood percent must be between 8.0 and 11.0, and indicates the haemoglobin levels of the donated bag of blood.

managed_by

A blood donation involves two members of staff, one for drawing the blood, and another for verifying the information on the blood bag.

Both “collected_by_nurse_id” and “verified_by_nurse_initals” references staff.initials. The two may not be the same nurse.

staff

position: There are 3 possible positions: nurse, bioanalytic, intern.

2.b

Insert two rows of data into each of the created tables.

Formalities

You may do this assignment as a group or solo, that’s up to you. Groups are recommended.

Deadline can be found on Itslearning.