

Designing a Relational Database: Part II

PROJECT: Modelling the Vaccine Distribution in Finland

(1/4) Requirements: Creating the SQL tables

After having designed the database, your next task is now to create the SQL-tables and design some queries. More specifically, you and your group members are expected to:

- ▶ Create all SQL-tables along with the primary and foreign keys. You should do this according to the model from Part 1.
- ▶ Enforce at least two attributes with appropriate check constraints.
- ▶ Populate the SQL-tables with the provided sample data. *It is necessary that you specifically use the provided data and not make up your own.*
- ▶ Design 7 SQL queries as specified in the next slide, run them, and attach the results of the answer sets together with the actual queries in your submission. Make sure your columns in the SQL queries are well named (i.e., use the keyword 'AS' when needed).

(2/4) Requirements: The SQL queries

Design and run SQL-queries for each of the following situations:

1. Find all the staff members working in a vaccination on May 10, 2021. List the social security number, name, phone number, role, and the vaccination status of the staff member, as well as the location (name of the hospital or clinic) of the vaccination event.
2. List all the doctors who would be available on Wednesdays in Helsinki.
3. For each vaccination batch, state the current location of the batch, and the last location in the transportation log. List separately the vaccine batch numbers with inconsistent location data, along with the phone number of the hospital or clinic where the vaccine batch should currently be.

(3/4) Requirements: the SQL queries

Design and run SQL-queries for the following situations:

4. Find all patients with critical symptoms diagnosed later than May 10, 2021. Match this data with the data about the vaccines the patient has been given. This should include the batches of the vaccines, the type of the vaccine, the date the vaccine was given, and the location of the vaccination. In case the patient has attended multiple vaccinations, you are supposed to add one row for each attended vaccination.
5. Create a view for patients with additional column "vaccinationStatus". This column takes the value 1 if the patient has attended enough vaccinations, and 0 otherwise.

(4/4) Requirements: the SQL queries

Design and run SQL-queries for the following situations:

6. Find the total number of vaccines stored in each hospital and clinic. You should consider only those vaccine batches in your database that are located in the hospital. For each hospital or clinic you should list both the total number of vaccines and number of vaccines of different types.
7. For each vaccine type, you should find the average frequency of different symptoms diagnosed. The symptom should not be considered to be caused by the vaccine, if it has been diagnosed before the patient got the vaccine. If a patient has received two different types of vaccines before the diagnosis of the symptom, the symptom should be counted once for both of the vaccines.