

# CMSC 23500 — Introduction to Database Systems

## Discussion Session #5

April 28, 2008

In this discussion session we will continue working with the Hospital database introduced in the previous discussion session, and which homework #4 also depends on. You will be asked to individually write some SQL queries using the database (use the version included with homework #4).

### 1 Hospital database

The schema shown in figure 1 models the data typically handled in a hospital setting, including patients, appointments, medical procedures, etc. In particular:

- There are three types of person in the database: physicians, nurses, and patients.
- Patients have a primary care physician.
- Patients can make appointments with any physician in the hospital. An appointment may also involve a nurse (who will prep the patient before the physician examines him/her).
- A physician can prescribe medication to a patient (the same medication cannot be prescribed more than once on the same day). When a prescription is done as a result of an appointment, it is noted in the database, but there can also be prescriptions that are not linked to an appointment (e.g., getting a refill).
- Patients can stay in a hospital room for a number of days.
- A room is part of a hospital block, which is a subdivision of a hospital floor.
- As part of a stay, a patient may undergo a medical procedure, which is carried out by a physician and assisted by a nurse.
- Physicians can be trained in multiple medical procedures.
- Physicians can be affiliated with multiple hospital departments, although they will have a single primary affiliation.
- Nurses are assigned to be “on call” in the hospital’s blocks.



## 2 Exercises

1. Obtain a list of all prescriptions, including the prescribing physician's name, the patient's name, the medication name, and the dose.

Patient	Physician	Medication	Dose
John Smith	John Dorian	Procrastin-X	5
Dennis Doe	Molly Clock	Thesisin	10
Dennis Doe	Molly Clock	Thesisin	5

2. Obtain the names of all physicians, along with the aggregate cost of all the procedures they have performed. You do not need to include physicians that have not performed any procedure

Patient	Cost
Christopher Turk	17100.0
John Wen	3775.0
Todd Quinlan	4899.0

3. Same as previous, but include physicians that have not performed any procedure (the aggregate cost should show up as NULL).

Patient	Cost
Bob Kelso	
Christophe	17100.0
Elliot Rei	
John Doria	
John Wen	3775.0
Keith Dude	
Molly Cloc	
Percival C	
Todd Quinl	4899.0

4. Obtain the names of nurse who have ever been on call in a block containing a room marked as unavailable.

Name
Carla Espinosa
Paul Flowers