

Introduction to Databases, ITU, Fall 2004

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Exercises on October 8

You are unlikely to be able to do all the exercises in two hours. Therefore you are encouraged to prepare at home, and use the exercises for those parts you find difficult.

1. G UW 3.7.2.
2. G UW 3.7.3 i) and ii) for the relation schema and dependencies in a). (Assume there are no functional dependencies.)
3. Based on the below description, perform the steps of the database design process:
 - E/R modeling
 - Transformation to relations
 - Normalization
 - Relation schema definition in SQL

In cases of doubt, make reasonable assumptions.

A hospital patient database

A hospital consists of a number of departments specializing in different areas. To each department is associated a number of physicians, again specializing in different subareas. One physician is the head of each department. The physicians use initials to identify themselves in the hospital records. The initials are unique within each department, but not across departments. The patient database should record the above information, and link it to information on patients. In connection with each stay at the hospital, the staff fill in information on cards similar to the one shown below. The database should be able to record this information.

Date of arrival: 20030826	Date of return: 20030823	Department: Surgery
CPR number: 111171-1111 Name: Pat Iento Weight: 71 kg Height: 171 cm	Patient's bed Number: QBF-03 Length: 220 cm Max load: 150 kg	Social insurance: Yes
Previous illness Date / diagnosis / doctor: 010187 / Anthrax / BHM 090999 / Appendicitis / JD	Diagnosis / doctor Appendicitis / PDI Inflammation / PDI	Medication H1 pain killer

No hand-in for October 15