



Middle East Technical University
Department of Computer Engineering

Ceng 302
Introduction to Database Management Systems
Fall 2014-2015-HW4

In this homework, you are given the E-R diagram of the database model which is uploaded into odtuclass as Homework1 Key and are supposed to:

1. Transform the diagram into a relational model.
2. Normalize your schema to 3NF.
3. Write SQL statements for the given English queries (explained in item 3)

For items 1 and 2, you are expected to construct a physical database according to given E-R diagram and normalize the database (schema) to 3NF. To construct the physical database, you are required to use a free DBMS tool MySQL (Community Edition), which can be downloaded from the internet site <http://dev.mysql.com/downloads/mysql/>.

3. Write SQL statements corresponding the below English queries.

- List all the employees in the health center.
- List all the employees in the health center except the ones who work as a nurse.
- List all the doctors who look after the inpatients having at least one visitor.
- List the name(s) of the doctor(s) who has neither the first nor the second highest salary among the doctors.
- List all the doctors who look after at least two patients of each having more than one phone number.
- List all the patients who are looked after by more than one doctor of each having distinct salary.
- List all the patients who have medical records of each having distinct type.
- List all the patients who have all types of medical records.

You will make a demo for your project. The demo date is 07.01.2015 (tentative) and demo hours will be announced on odtuclass; so you are strongly recommended to check odtuclass in a regular fashion.

For test purposes you should insert enough (at least 10 records for each table) data into your database. You should submit a zip file into odtuclass before deadline including the following files:

- Create table and insertion scripts,
- Batch file including the SQL queries in part 3,
- At most 2 pages long project paper explaining: Your design, difficulties you faced and the solutions you employed.

In the demo, your create table, insertion scripts and SQL queries will be run and checked whether they work properly. Also you'll be asked how you made your design and normalization. So, it is highly recommended to get prepared for the demo.

Regulations for HW4

- The homework must be completed individually; copying from others is strictly forbidden.
- You have to submit your homework as zip file through odtuclass.
- The submission deadline of the homework (zip file) is 06.01.2015, 23:55.
- Late homeworks will not be evaluated.