

DA 2032 - Databases

Assignment 1

There will be four assignments. You need to pass all four of them to be admitted to the oral exam. If there are problems with your solutions, you'll be given the chance to fix them.

This first assignment consists of two parts: A theoretical and a practical part. Both parts require you to write some text and create ER-diagrams. Hand in the text by email (tobias.gutzmann - at - msi.vxu.se). If you want to draw the ER-diagrams by hand, you can hand them in separately on paper, or you may scan them if you like.

Deadline for the first assignment is **September 26** .

1 Theoretical Part

1.1 Sjukhus

Create an ER-Diagram that models the following mini-world. Also add cardinalities to the relations.

A patient suffers from one or more diseases. There are diseases that no one suffers from. Every patient is being treated at exactly one ward, and by one or more doctors. Every doctor treats at most 50 patients, which may be located at different wards. Every ward belongs to exactly one hospital, and one hospital consists of at least five wards. A hospital employs ten or more doctors, and a doctor is employed at most at five hospitals simultaneously.

If there are things that you cannot model, or leave out in order to get a "cleaner" design, argue why.

1.2 Database Design

Solve exercise 2.2.1, pg.45, from the database book mentioned in the first lecture. If you don't have the book, no problem, as Chapter 2 is freely available from <http://infolab.stanford.edu/~ullman/dscb/ch2.pdf>

2 Practical Part

2.1 Setting up MySQL

1. Download and install MySQL from mysql.org. Make sure you download the *Community Server*, as that's the freely available version. If you use Linux, your distribution will most likely contain a proper package.
2. Installation should be straight forward. However, there are several options and different procedures under different operating systems. Follow on-screen instructions and refer to Section 2.4 of the manual. Check that

your installation is running by following Section 2.16 of the aforementioned manual. Since the MySQL console (mysql) makes annoying beeps when entering faulty commands, you might want to run it with the `--no-beep` option.

2.2 Movie Database

1. Study the text files contained in <http://w3.msi.vxu.se/users/tgumsi/da2032/infoFiler.zip>. Based on these files, create an ER-Diagram for a database design which can contain the information herein. The ER-Diagram should contain at least one isa-relation. Don't forget attributes, and indicate the keys.
2. Create a set of MySQL commands that creates the database.
3. Write a short report describing your work from the first two steps.