



## **Exercise Sheet 12: Application Programming II (until Thursday 02.02.2012)**

Please note that you need **50%** of all exercise points to receive the “Studienleistung”. Exercises have to be turned in until **Thursday** of each respective week and must be completed in teams of two students each. You may hand in your solutions either on paper **before the lecture** or into the mailbox at the IFIS floor (Mühlenpfordtstraße 23, 2nd floor). Please do not forget your “Matrikelnummer” and your tutorial group number on your solutions. Your solutions may be in German or English. Please note: To pass the “RDB I Modul” you need the exercise points and the exam!

### **General Information**

This week, we will do some Java programming. For that task, we again recommend that you use a Java IDE (e.g. [Netbeans](#) or [Eclipse](#)). However, you are free to use any tools for programming you prefer. Besides an IDE, you obviously will need a [Java SE JDK](#) (use version 6 or newer). After you got your IDE up and running, you should get the DB2 JDBC driver.

During the course of the exercise, you are to write a little Java program. Please send the .java files of your program via **e-mail** to your tutor. Please note that your tutor must be able to inspect your program easily – so take care that you package everything needed to **compile** and **run** it. If something special has to be done to compile or run your code, please **document** this. Also, you are required to **comment** sections of your program code (using Java comments) so that it is easy to understand by others (in particular by your tutor). If your code cannot be compiled or run easily or is not well documented/commented, you will not receive any points.

It is part of this exercise to look up all necessary commands and methods the lecture did not cover in depth. The easiest way for this probably is referring to [the Java API documentation](#) which can be found online. Moreover, many Java and JDBC tutorials can be found on the Web. Use PreparedStatement to query the database.

### **Exercise 12.1 (20 points)**

- a) Write a Java method establishing a connection to our DB2 database. The Connection object is to be returned by the method. Hint: Set the retrieveMessagesFromServerOnGetMessage property to true during connection initialization in order to obtain verbose exceptions from the JDBC driver. (4 points)
- b) Write a Java method returning the names of all actors with a given initial letter. Use the actors table from your own schema. (4 points)
- c) Write a Java method returning the number of actors participating in a given movie. The method should get a movie title as input parameter. (4 points)
- d) Write a Java method showing for a given genre the 10 highest rated movies and the 10 movies with the lowest rating. Use the IMDB schema. The considered movies have to be cinema movies (type = ‘film’) and must have more than 100000 votes. (8 points)