

Introduction to Databases, ITU, Fall 2005

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Exercises on September 5

The aim of the first exercises is to get you up and running with the Oracle DBMS at ITU as well as the Gradiance system, and to give you some experience writing basic SQL queries. You are encouraged to start with some of the practical matters before the exercises.

Getting a Gradiance account

In a web browser go to the URL www.gradiance.com/freeDB, and follow the instructions on the screen to create a new account. Please write your name as it appears on the list of course participants. Once you have logged in, you sign up for the IDBI05 class by entering the Gradiance token that you received by e-mail. You can now use the system to do “homeworks” and “lab projects”. A short guide can be found at www.gradiance.com/downloads/stud-guide.pdf. Note that Gradiance uses MySQL as the underlying DBMS, so the SQL variant is not identical to that of Oracle.

Getting Oracle running

To create an Oracle account, go to <http://itu.dk/sysadm/db/>. Type your unix/mail user name and password, then select Oracle, and write the user name and password you would like.

To start SQL*Plus, which is a text-based client for Oracle, you first need to log in on the machine `ssh`. In Linux this can be done by writing on the command line: `ssh ssh.itu.dk` (then type unix/mail user name and password). In Windows you can use an SSH client, installed on ITUs Windows machines (the course home page provides a link you can use if you want to install an SSH client at home). Once logged in, type in the SSH window:

```
sqlplus yourOracleusername@studora (then type Oracle password)
```

You may now type SQL commands, and the results will be displayed in the SQL*Plus window.

Tips:

- It is a good idea to write and edit your queries in a text editor, rather than in the SSH window, and copy and paste them into the SSH window.
- In SQL*Plus type `SET LINESIZE 128`, and enlarge the SSH window, to make SQL*Plus print longer lines (avoiding wrapping that makes query results hard to read).
- On ITUs Windows machines there is a graphical client installed that can also be used to access Oracle. It is called TOra - Toolkit for Oracle. Some of you may find it more convenient than SQL*Plus.

Getting data to work on

To enter some data into Oracle, direct your browser to the URL

```
http://www.itu.dk/people/pagh/IDB05/data/all.rel
```

Then copy and paste the SQL commands into the SQL*Plus window. This will create a number of relations to be used in exercises throughout the course. Test that you got the data entered by running the command `SELECT * FROM Movie;`

Exercises

1. Gradiance Lab Project “Kings”, queries 1, 2, 3, and 6.
2. GUW 6.1.4. Test your queries in Oracle on the sample data.
3. GUW 6.2.1. Test your queries in Oracle on the sample data.
4. GUW 6.2.3 c), e), and f). Test your queries in Oracle on the sample data.
5. GUW 6.5.2 a), b), and d). Test the updates in Oracle on the sample data .

Individual hand-in 1

Due September 12, 1 PM: Gradiance lab project “Bars and Beers 1”. To get the hand-in approved you must get at least 3 of the queries correct.

In the relations of this project, unknown values are represented by the value NULL. To test if an attribute `a` equals NULL you can use the syntax “`a is NULL`” which is a boolean expression that is true exactly when `a` equals NULL.