

Exercises for DW & DM

Sheet 2 (until 15.11.2011)

Please drop your solution in the silver homework box (second floor where the IfIS is located) until Tuesday, before the lecture (date is also mentioned above). You may answer in either German or English. **You are encouraged to work in teams of 2 students** (not more than 2), and send your solution as a team. Please mention in your email the **name of both students** together with the corresponding **inmatriculation numbers**.

Exercise 1 (2P)

Only for non-ITIS students: Please log in to our Homework Management System (HMS) at <https://www.ifis.cs.tu-bs.de:8443/hms/> using your y-number and password and sign in for this lecture. This will make grading and managing your homework easier for both of us. (Some of you have already been added to the lecture, so please check the accuracy of the information).

Exercise 2 (5P)

1. What kind of a schema is presented in Annex 1? (1P)
2. In which case should we consider migrating from a snowflake schema to a star schema? (1P)
3. Considering that the product dimension is subject to often change, how would you transform (draw) the schema in Annex 1, into a Starflake one? (3P)

Exercise 3 (3P)

1. What does linearization mean, in the case of multidimensional storage? (1P)
2. Explain why dimension order is important when storing multidimensional data in a linearized array. (2P)

Exercise 4 (3P)

1. Considering a database structure as in Annex 1, construct an SQL query which returns the profit, the quantity and the average price of sold UMTS mobile phones this year, in Europe. (3P)

Annex 1:

