

Exercise Sheet No. 7 - Database

Energy Informatics

Winter 2016

Submission deadline: 09.02.2017, at 11:15 a.m.

Using *power_consumption* database, for each of the following exercises, submit the sql query and the corresponding results if necessary. Make sure to deliver only the requested information!

Exercise 1: Dealing with date (3 pts)

Using the *extract* function you can extract specific fields from a date value. Refer to the Oracle Database Online Documentation to learn more details about this function and usage examples:

https://docs.oracle.com/cd/B19306_01/server.102/b14200/functions050.htm

Use this function to show the average and the sum of power consumption of each fuel type for each month of the recorded period in reading table¹. The results should appear in an ascending order of the average consumption.

Exercise 2: Views (2 pts)

Create a view that contains the following information:

For each building, fuel type and month, give the sum of power consumption. Deliver the following information: buildingid, year, month, fuelid, consumption_sum.

Exercise 3: With SQL you can also create and manipulate your data! (5 pts)

Create your own version of the table PeriodBuilding (call it PeriodBuilding_yourname), it should contain the same attributes of the existing table PeriodBuilding. Give the SQL code for creating this table considering the following points:

- The table should contain an auto-increment primary key
- It has three foreign keys: one refers to BuildingId, one refers to FuelId and the last one refers to PeriodId

Define the correct referential actions on those keys to assure that:

- Deleting a row from one of the parent tables will lead to deleting the corresponding row from the child table
- Updates on the parent tables should be rejected if there is a related foreign key value in the child table.

¹Hint: your result should contain 12 rows.