**Lab work 8**

**Queries 2 (University database, individual work)**

**Goal:** to implement queries for following tasks. Write only one query for every task. Also make detailed description about a result for every query (for tasks 1-6). For this lab work use the University database from the handouts (\*.sql + ER diagram).

**Tasks:**

1. Make a query with at least one of the following function: max(), min(), avg(), sum().
2. Make a query with count() function.
3. Use GROUP BY with one of the aggregation functions.
4. Add to the previous query a condition with HAVING keyword.
5. Use SELECT statement with sorting results in ascending or descending order.
6. Write one query with two different types of ordering for different attributes.
7. Show Schedule table in the following way: Group's name, Subject's name, Room, Time, Day of week, Type of class, Teacher's lname
8. In this task before using Select statement, add some rows with different values in the Progress and Ed\_process tables. Display Progress table in the following way: student's fname and lname in one column with "Full name" heading, subject's name, rk1, rk2, average rk, exam, final.
9. Edit previous task to get only students with good (but not excellent) final grade (in other words, from 75 to 90). "Final" column contains grades in 100% scoring system.
10. Make the following table from Ed\_process: Group's name, Subject's name, average value of final (for this group and this subject).
11. Make query from Students and Progress tables with following information: student's fname and lname in one column with "Full name" heading, average value of final for all subjects for this student (something like gpa). Show only students with average final grade more or equal 90. Sort students alphabetically.
12. Before using select statement add some rows with different values in the Schedule table. Show only teachers with lectures on Monday: teacher's lname, subject's name, time, room.
13. Show only teachers with more than 10 hours in a week: teacher's lname, number of hours in a week.
14. Show the next table: group's name, term, total number of credits (for these groups in this term).
15. Write a query to get a max length of students' last names from Students table.

**Upload:** a report (\*.doc or \*.pdf) with scripts and screenshots for every task as a result of your work.

**Materials:**

Lecture 10

[www.postgresql.org/docs/manuals/](http://www.postgresql.org/docs/manuals/)