National Institute of Technology, Silchar
Semester: 6^{th}. Branch: CSE

Date: 22.03.2017

Database Management Systems Lab
Assignment 3
Submission due: March 29, 2017

1. Using the university schema that you have write the following queries. In some cases you need to insert extra data to show the effect of a particular feature – this is indicated with the question. You should then show not only the query, but also the insert statements to add the required extra data.

   (a) Find the maximum and minimum enrollment across all sections, considering only sections that had some enrollment, don't worry about those that had no students taking that section.

   (b) Find all sections that had the maximum enrollment (along with the enrollment), using a subquery.

   (c) As in $Q1$, but now also include sections with no students taking them; the enrollment for such sections should be treated as 0. Do this in two different ways (and create require data for testing)

      i. Using a scalar subquery.

      ii. Using aggregation on a left outer join (use the SQL natural left outer join syntax).

   (d) Find all courses whose identifier starts with the string "$CS-1$"

      i. Using the "not exists ... except ... " structure.

      ii. Using aggregation on a left outer join (use the SQL natural left outer join syntax).

   (e) Insert each instructor as a student, with *tot_creds* = 0, in the same department.

   (f) Now delete all the newly added "students" above (note: already existing students who happened to have *tot_creds*= 0 should not get deleted).

   (g) Some of you may have noticed that the *tot_creds* value for students did not match the credits from courses they have taken. Write and execute query to update *tot_creds* based on the credits passed, to bring the database back to consistency.

   (h) Update the salary of each instructor to 10000 times the number of course sections they have taught.