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# CS345: Database Laboratory

Database Regular Lab Session (1 Questions, 24 Points)

Time: 09:00–12:00 (3.0 hours.) Pages: 2

IIT Guwahati

16 Feb 2018 (Fri) Lab session: ML5

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## Question 1: (24 points)

Using the built time table database write the SQL queries for the following questions. Schema for the time table database (excluding `ScheduleIn` relation) are produced below.

All assumptions in time table database preparation must be clearly stated.

- **Course:** `course_id`, `division`
- **Department:** `department_id`, `name`
- **Slot:** `letter`, `day`, `start_time`, `end_time`
- **Room:** `room_number`, `location`
- **Note:** Login to mysql through the command: `mysql -uroot -p` (Maths and Computing students: password is `abc123`)

### 1. Problem Statement: Write SQL queries for the following: (Sections 4.1 and 4.2 of Raghu Ramakrishnan text book Sections 4.1 and 4.2 of Raghu Ramakrishnan text book and <https://dev.mysql.com/doc/refman/5.7/en/select.html>)

- Find `course_ids` which are in the room 2001.
- Find `course_ids` which are in Slot C.
- Find `division` which is allotted to room L2 or L3.
- Find `course_ids` which are allotted to multiple rooms (irrespective of division).
- Find `department` names in which any of the course of the department have been allotted to room L1 or L2 or L3 or L4.
- Find `department` names which do not use L1 or L2 rooms.
- Find `department` names which have utilized all the slots.
- List the slots and number of courses the slot was assigned in ascending order.
- List the rooms and number of courses the room was assigned in descending order.
- Find the slot name which was assigned minimum number of courses.
- List all the slots which were assigned to minor courses.
- Department name wise list the slots which were not used.

### 2. Instructions

- Your should present in the lab for all the three hours.
- You must use SQL to achieve this task.
- Naming convention:** For every file you create, prepend the file with your roll\_number. For example, if you create an SQL file with name: `course.sql` then the file name should be `150101999_course.sql`.

- (d) **File to be submitted:** You should submit an SQL file with name **roll\_number.sql**
- (e) **Submission Policy:**
- i. **On time submission:** Assignments which reached my mail box on or before **28-Feb-2018, 16:00:00:00 hours** (Coinciding with the CS344 mid-semester examination timing) are considered as on time submissions. There is NO penalty associated with these submissions.
  - ii. **Late submission policy:** Any submission after the specified on-time submission WILL NOT BE EVALUATED. They will be awarded 0 marks.
  - iii. **Double submission policy:** You should submit the assignment **once and only once**.
  - iv. **Series of valid excuses:** Students who still have excuses SHOULD excuse the instructor.
  - v. **Absentee submission:** For your assignment to be evaluated, you SHOULD present in the lab and sign the attendance sheet. In case you are absent for the lab and found to submit the assignment, your submission will be evaluated and will receive as many **negative marks** for the positive marks you earned in the evaluation process without any further discussion.
  - vi. **CS345 lab work:** You should dedicate your time only for the purpose of CS345. In case TA finds you performing activities other than CS345 related he/she has the right to take away your attendance.
- (f) **CSE student only:** You are not allowed to perform **mysql** installation during the lab session. If you have not installed **mysql** please leave the lab without disturbing fellow students.
- (g) **Maths & Computing students only:** Changing of the root password of mysql server will invite disciplinary action.
- (h) **Mobile phones** are not allowed inside the lab.
- (i) **Silence:** Any discussion among students should take place outside the lab. TAs have every right to maintain order in lab.
- (j) **Submitting your solution:** email to [vijaya.saradhi@gmail.com](mailto:vijaya.saradhi@gmail.com). Subject: CS345: assignment-4: Your roll number.
- (k) Attach the .tar.gz file prepared in step 2 (d).
3. **Marking Policy:** Each query carry **two marks**.