

DBMS Lab-2

2019

1. Use the database created last day to test.
 - Back up of your database
 - Restore your database
- Home-work: read more about back up, logical backup, physical backup. Above commands are for logical backups that are safer for cross-version restoration. Try physical backup yourself.

2. Create database

- Create a new database *university* and switch to that database
 - create database university;
- Import schema using create_university_class2.sql
 - sudo mysql -u root -p university -h localhost < create_university_class2.sql
- Login directly into university database from console
 - sudo mysql -u root -p university -h localhost
- List the tables in the university database
- Show the definition and content of the course table
- Import data into university database using data_university_class2.sql
 - sudo mysql -u root -p university -h localhost < data_university_class2.sql
- Show the definition and content of the course table

3. Create tables

- Create table 'takes' using following fields
 - `ID`, `course_id`, `sec_id`, `semester`, `year`, `grade`.
 - ID is same as ID in student table. And ID will be present here if there is a student in student table.
 - For each entry the information in [`course_id`, `sec_id`, `semester`, `year`] should be always in table `section`. This should be maintained automatically if some record is also deleted from section table.
 - Each row in this table is identified by ID and course_id.
- Create table 'teaches' using following fields
 - `ID`, `course_id`, `sec_id`, `semester`, `year`,
 - Each row is identified by `ID`, `course_id`, `sec_id`, `semester`, `year`)

- ID is same as ID in instructor table. And ID will be present here if there is a student in student table.
- For each entry the information in [`course_id`, `sec_id`, `semester`, `year`] should be always in table `section`. This should be maintained automatically if some record is also deleted from section table.
- An instructor in instructor table cannot be deleted if some entry about him is in this table.

4. Insert records for data given in list form (order is same as in definition of the table)

- Teaches
 - '10101', 'CS-347', '1', 'Fall', '2009'
 - '12121', 'FIN-201', '1', 'Spring', '2010'
 - '22222', 'PHY-101', '1', 'Fall', '2009'
 - '32343', 'HIS-351', '1', 'Spring', '2010'
 - '45565', 'CS-101', '1', 'Spring', '2010'
 - '45565', 'CS-319', '1', 'Spring', '2010'
 - '76766', 'BIO-101', '1', 'Summer', '2009'
 - '76766', 'BIO-301', '1', 'Summer', '2010'
 - '83821', 'CS-190', '1', 'Spring', '2009'
 - '83821', 'CS-190', '2', 'Spring', '2009'
 - '83821', 'CS-319', '2', 'Spring', '2010'
 - '98345', 'EE-181', '1', 'Spring', '2009'
- Takes
 - '00128', 'CS-101', '1', 'Fall', '2009', 'A'
 - '00128', 'CS-347', '1', 'Fall', '2009', 'A'
 - '12345', 'CS-101', '1', 'Fall', '2009', 'C'
 - '12345', 'CS-190', '2', 'Spring', '2009', 'A'
 - '12345', 'CS-315', '1', 'Spring', '2010', 'S'
 - '12345', 'CS-347', '1', 'Fall', '2009', 'A'
 - '19991', 'HIS-351', '1', 'Spring', '2010', 'B'
 - '23121', 'FIN-201', '1', 'Spring', '2010', 'C'

5. Run following and report the output

- Select '123'
- Select ID from Takes where year =2009
- (Select ID from Takes where year =2009) intersect (Select ID from Takes where year =2010)
- Select count(ID) from Takes

6. Querying database

- Count number of departments

- Show departments in the descending order of budget
- Display records in the 'takes' table where order of grade as following [S, A+, A, A-, B+, B, B-,]
- Find out students ID who has taken some courses in both year 2009 and 2010.
- Show departments which have budget greater than average budget
- Display all courses taught by 'Srinivasan'
- Display all instructors who have taught in 2009. (Hint. display an instructor once even if he has taught more than once).
- Display all the instructors who have taught only once.
- Display all the instructors who have taught two or more courses.
- Display all the instructors whose name starts with 'C'.
- Display all instructors whose salary is between 60,000 and 80,000 (inclusive).
- Correct the name of the instructor from 'Singh' to 'Sing'
- Delete the course 'Biology'