CSL 3050 : Database Systems

Lab 11 and 12

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Part 1

Create a table that contains 4 main sections i.e., Academics, Office of Academics, Faculty, Student, Subjects floating in different-different department.

1) LOAD DATA INFILE `academics.csv` INTO TABLE `Academics` FIELDS TERMINATED BY `,` ENCLOSED BY `\"` LINES TERMINATED BY `\n` IGNORE 1 ROWS;

2. Select faculty_name,department_name from faculty where associated_with_office_of_academics='yes'

```
MariaDB [iit jodhpur]> select faculty_name,department_name from faculty where associated_with_office_of_academics='yes'
    -> ;
+--------------+-----------------+
| faculty_name | department_name |
+--------------+-----------------+
| f2           | electrical      |
| f4           | civil           |
| f2           | electrical      |
| f4           | civil           |
| f5           | cse             |
+--------------+-----------------+
5 rows in set (0.001 sec)
```

3. SELECT course_name, faculty_taking FROM `subjects` group by average_marks_of_batch desc limit 0,3;

```
MariaDB [iit jodhpur]> SELECT course_name, faculty_taking FROM `subjects` group by average_marks_of_batch desc limit 0,3;
+-------------+----------------+
| course_name | faculty_taking |
+-------------+----------------+
| EEL3020     | F6             |
| EEL2030     | F8             |
| CIL3030     | F12            |
+-------------+----------------+
3 rows in set (0.001 sec)
```

4. SELECT student_name FROM `student group by marks_in_course desc limit 0,5;

```
MariaDB [iit jodhpur]> SELECT student_name FROM `studentt`group by marks_in_course desc limit 0,5;
+--------------+
| student_name |
+--------------+
| P            |
| R            |
| L            |
| I            |
| O            |
+--------------+
5 rows in set (0.000 sec)
```

5. SELECT student_name FROM `student` WHERE department_name = 'electrical' and (courses_taken = 'cs_c1' or courses_taken = 'cs_c2' or courses_taken = 'cs_c3');

```
MariaDB [iit jodhpur]> SELECT student_name FROM `studentt` WHERE department_name = 'electrical' and (courses_taken = 'cs_c1' or courses_taken = 'cs_c2' or courses_taken = 'cs_c3');
Empty set (0.001 sec)
```

Here the query is giving the output to be the NULL set due to the data values set in such a way that there are no cases of faculties teaching M.Tech + B .Tech at same time.

6. select count(*) from student where dept_name='Electrical' and subject_code in (select subject_code from course where dept_name='CSE');

Part 2

Queries:

2. { "$lookup" : { "from" : "faculty", "localField" : "faculty_name", "foreignField" : "department_name", "as" : "departments" }

3. db.subjects.aggregate([{ $group: { _id: "$course_name", faculty_name: { $first: "$faculty_name" }, average_marks_of_batch: { $first: "$average_marks_of_batch" } }}, { $sort: { average_marks_of_batch: -1 } }, { $limit: 3 }])

4. db.student.find().sort({"marks_in_course":-1}).limit(5).toArray().map(function(student){return

student.student_name})

5. db.student.find({department_name: "electrical", courses_taken: {$in: ["cs_c1", "cs_c2", "cs_c3"]}}, {student_name: 1})

6. db.students.find({"department": "Electrical", "cse_subjects": {$gt: 0}}).count()