
CS246: Database Management Systems Lab

Lab # 05 (1 Questions, 50 Points)

Timings: 14:00 to 18:00 Hours Pages: 3

IIT Guwahati

Submission: 18:30 Hrs, 07-Feb-2022

07 Feb 2022 (Mon)

Question 1: (50 points)

Using MySQL perform the following tasks:

Task 01 (1 Mark) Create a database named *assignment05*

Task 02 (5 Marks) Create the following tables

1. (1 Mark) **course** having the columns

cid course id (or course number) (primary key)

cname course name

l lecture hours

t tutorial hours

p practical hours

c total credits

You are given a **course.csv** file where the corresponding data is present

2. (1 Mark) **course_coordinator**

cid course id (or course number) (primary key)

cstart course start date

cend course end date

gsubmission grade submission date for the course

coordinator course coordinator

exam_date end semester exam date for the course

You are given a **course_coordinator.csv** file where the corresponding data is present

3. (1 Mark) **course_eligibility**

cid course id (or course number) NOT NULL

program Program which is eligible for crediting the course

batch_year batch's year which is eligible for crediting the course

batch_month batch's month which is eligible for crediting the course

eligibility the description

You are given a **course_eligibility.csv** file where the corresponding data is present

4. (1 Mark) **course_instructor**

cid course id (or course number)

`instructor` faculty name

You are given a `course_instructor.csv` file where the corresponding data is present

5. (1 Mark) `faculty`

`dept` department for which a faculty works (primary key)

`instructor` faculty name (primary key)

You are given a `faculty.csv` file where the corresponding data is present

Task 03 (5 Marks) load the data corresponding to all the above tables using the csv files.

Task 04 (39 Marks) Implement the following queries in MySQL

Q1 (1 Mark) List each course name and the number of eligible programs that are allowed by the course to credit the course.

Q2 (5 Marks) List the course id, course name and faculty such that the course id has maximum number of instructors. You have to display the course id, course name, and faculty name. If there is more than one course having identical maximum value, list the information for all such courses. You may use multiple queries to arrive at the solution. You can create intermediate tables as explained in lecture (see week03.pdf, slide number: 101).

Q3 (4 Marks) List the courses whose credit structure is *incorrect in the database*; Every course has L-T-P-C. Here $C = 2 * L + 1 * T + 1 * P$. Whenever there is a violation of this credit structure, list the course name and department name. Note that Half courses are denoted by a trailing H in cid. Their credit structure is $C = (2 * L + 2 * T + P) / 2$

Q4 (4 Marks) List the course name and coordinator in which coordinator is not an instructor of the course. Note: for set difference and set intersection operation you may use IN/NOT IN operator as discussed in the class)

Q5 (4 Marks) List course name, grade submission date for each course.

Q6 (4 Marks) List course name, end semester exam date for each course which are not half courses.

Q7 (8 Marks) List course id, course name, instructor name such that the course has number of eligible programs greater than or equal to 10.

An example is: BT206 has 12 programs that are eligible to credit the course.

These are:

+-----+-----+-----+-----+-----+				
cid	program	batch_year	batch_month	el
+-----+-----+-----+-----+-----+				
BT206	B.Tech Biosciences and Bioengineering	2014	AUG	De
BT206	B.Tech Biosciences and Bioengineering	2015	AUG	De
BT206	B.Tech Biosciences and Bioengineering	2016	AUG	De
BT206	B.Tech Biosciences and Bioengineering	2017	AUG	De
BT206	B.Tech Biosciences and Bioengineering	2018	AUG	De
BT206	B.Tech Biosciences and Bioengineering	2019	AUG	De

BT206	B.Tech Biotechnology	2014	AUG	De
BT206	B.Tech Biotechnology	2015	AUG	De
BT206	B.Tech Biotechnology	2016	AUG	De
BT206	B.Tech Biotechnology	2017	AUG	De
BT206	B.Tech Biotechnology	2018	AUG	De
BT206	B.Tech Biotechnology	2019	AUG	De
+-----+-----+-----+-----+				

You should display

cid	cname	instructor	
BT206	MicroBiology	Dr. Shirisha Nagotu	
BT206	MicroBiology	Prof. Sanjukta Patra	
+-----+-----+-----+			

That is all cid's having more than 10 eligible programs, you have to list cid, cname and instructor name. You can create intermediate tables as explained in week03.pdf, slide number 101.

Q8 (4 Marks) List the faculty name, department and which course (id) the faculty is offering.

Q9 (5 Marks) List department wise, name of the faculty who is not offering a course.

Instructions Adhere to the following

.sql file Write all the SQL statements in a text file.

File naming text file name should be [Your roll number].sql

Independent efforts You should make an honest and independent effort in obtaining the solution to the above problem.

Submission Procedure You should write all SQL statements in a text file named [Your roll number].sql. Upload the file in the MS assignments site.