

LS SQL Assignment

Analytics Club, IITB

21 July 2021

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1 Overview

This is the assignment for LS SQL. You may use any online SQL compiler to check your queries. One has been given below for your reference.

<https://www.mycompiler.io/new/sql>

Instructions for doing the rest of the assignment have been given in the sections below.

2 Creating the table

Below files contain the MySQL code to create table and insert information into the table which shall be used at the time of calling the queries.

Click on the link given below to open the folder which consists of the three files to be downloaded :

https://drive.google.com/drive/folders/10n2jQBmC0p4bsPJ0V6Tn-uhy0K0dh7j_?usp=sharing

Download the three files and paste the code in the following sequence:
DDL.sql → smallRelationsInsertFile.sql → largeRelationsInsertFile.sql

3 Set 1 Queries

1. Find the names of all the instructors from Biology department
2. Find the names of courses in Computer science department which have 3 credits
3. For the student with ID 12345 (or any other value), show all course.id and title of all courses registered for by the student.
4. As above, but show the total number of credits for such courses (taken by that student). Don't display the tot_creds value from the student table, you should use SQL aggregation on courses taken by the student.
5. As above, but display the total credits for each of the students, along with the ID of the student; don't bother about the name of the student. (Don't bother about students who have not registered for any course, they can be omitted)
6. Find the names of all students who have taken any Comp. Sci. course ever (there should be no duplicate names)
7. Display the IDs of all instructors who have never taught a course (Notesad1) Oracle uses the keyword minus in place of except; (2) interpret "taught" as "taught or is scheduled to teach")
8. As above, but display the names of the instructors also, not just the IDs.

4 Set 2 Queries

You need to create a movie database. Create three tables, one for actors(AID, name), one for movies(MID, title) and one for actor_role(MID, AID, rolename). Use appropriate data types for each of the attributes, and add appropriate primary/foreign key constraints.

9. Insert data to the above tables (approx 3 to 6 rows in each table), including data for actor "Charlie Chaplin", and for yourself (using your roll number as ID).

10. Write a query to list all movies in which actor "Charlie Chaplin" has acted, along with the number of roles he had in that movie.
11. Write a query to list all actors who have not acted in any movie
12. List names of actors, along with titles of movies they have acted in. If they have not acted in any movie, show the movie title as null. (Do not use SQL outerjoin syntax here, write it from scratch.)

5 Bonus Queries

- 1a. 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.
- 1b. Find all courses whose identifier starts with the string "CS-1"
- 1c. Insert each instructor as a student, with tot_creds = 0, in the same department
- 2a. The university rules allow an F grade to be overridden by any pass grade (A, B, C, D). Now, create a view that lists information about all fail grades that have not been overridden (the view should contain all attributes from the takes relation)
- 2b. Find all students who have 2 or more non-overridden F grades as per the takes relation, and list them along with the F grades.

6 Submission Guidelines

Make a copy of this document in your own drive and enter the answers to the queries right below the query, in the space given there. eg.

Q] Display all the information in table 'XYZ'
 SELECT * FROM XYZ

Once you have finished the assignment, submit **only the .doc version** in the google form given below :

<https://forms.gle/h3jS7yh6DCYFm8Zp9>

6.1 Deadline

The general deadline for all the students is till **Saturday, 24 July '21, 11:59 PM**.
 For third year students who wish to add LS-Analytics certificate in their resume must submit by **Thursday, 22 July '21, 6:00 AM** for verification

7 Grading Policy

- +1 For correct answer to a query in Set-1
- +1 For correct answer to a query in Set-2 (Please note there are **NO** points for creating the table in Set-2)
- +3 For correct answer to a query in Bonus Queries

PASSING CRITERIA- Getting a score of **10** or more in this assignment.

We shall be running **plagiarism** checks to ensure that there is no copying. So please attempt the assignment in full fairness to gain the maximum out of it.