Practice 1

SQL

KOREA UNIVERSITY
DATABASE LAB

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Database Setup

Database Setup

1. Download some sql files from blackboard
   - DDL.sql
   - smallInsertFile.sql
2. Make university schema and insert the data into relations, using sql files
   a. Run psql prompt
   b. Create a new database using ‘CREATE DATABASE practice’ command
   c. Run ‘\c practice’
   d. Run ‘\i [sqlfilepath]/DDL.sql’ (Don’t use whitespace or backslash ’\’ in the filepath)
   e. Run ‘\i [sqlfilepath]/smallInsertFile.sql’

Practice Exercises

- Practice Exercise 1
- Practice Exercise 2
- Practice Exercise 3

Practice Exercise 1

Write the following queries in SQL, using the university schema.

a. Find the titles of courses in the Comp. Sci. department that have 3 credits

b. Find the IDs of all students who were taught by an instructor named Einstein; make sure there are no duplicates in the result

c. Find the highest salary of any instructor

d. Find all instructors earning the highest salary (there may be more than one with the same salary)

e. Find the enrollment for each section that was offered in Fall 2009

f. Find the maximum enrollment, across all sections, in Fall 2009

g. Find the sections that had the maximum enrollment in Fall 2009

Practice Exercise 2

Make a relation *grade points(grade, points)*, which provides a conversion from letter grades in the *takes* relation to numeric scores. The tuples of the *grade points* relation : (A+, 4.3), (A, 4.0), (A-, 3.7), (B+, 3.3), (B, 3.0), (B-, 2.7), (C+, 2.3), (C, 2.0), (C-, 1.7)

The grade points earned by a student for a course offering (section) is defined as the number of credits for the course multiplied by the numeric points for the grade that the student received.

You can assume for simplicity that no *takes* tuple has the null value for grade.

The result of the student who doesn't take any class is 0

a. Find the total grade-points earned by the student with ID 12345, across all courses taken by the student

b. Find the grade-point average (GPA) for the above student, that is, the total grade-points divided by the total credits for the associated courses

c. Find the ID and the grade-point average of every student

Practice Exercise 3

**Write the following inserts, deletes or updates in SQL,
using the university schema.**

a. Increase the salary of each instructor in the Comp. Sci. department by 10%

b. Delete all courses that have never been offered (that is, do not occur in the *section* relation)

c. Insert every student whose *tot_cred* attribute is greater than 100 as an instructor in the same department, with a salary of $30,000

Homework 3

Homework 3

1. Complete today's practice exercises
2. Take screenshots of your queries and execution results
3. Submit your report on blackboard
   - 10:30 am, October 8th, 2019
   - **Only PDF files** are accepted
   - **No late submission**

End

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