Assignment 3

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Question 2: SQL code

1. Student ID: Select ID from takes
2. Instructors: Select ID, name from instructor
3. Departments: Select dept_name from department

Question 3: SQL queries

a. ID and name of student who has taken at least one Comp. Sci. course
    i.   select distinct student.ID, name from student inner join takes on student.ID = takes.ID inner join course on takes.course_id = course.course_id where course.dept_name = 'Comp. Sci.'
    ii. Select distinct student.id, name from student, takes, course where student.id = takes.id and course.course.id = takes.course.id and course.dept_name = 'Comp. Sci.';
b. Add grades to list
    i.   select distinct student.ID, student.name, takes.grade from student inner join takes on student.ID = takes.ID inner join course on takes.course_id = course.course_id where course.dept_name = 'Comp. Sci.'
C. Find ID and name of each student who has not taken any course offered before 2017
    i.   select student.ID, student.name from student where student.ID in (select distinct takes.ID from takes join section on takes.course_id = section.course_id and takes.sec_id = section.sec_id and takes.semester = section.semester and takes.year = section.year where section.year > 2017)

Question 3 Cont.

a. For each department, find max salary of instructors
   i. Select dept_name, max(salary) as max_salary from instructor group by dept_name
b. Find min salary
   i. Select dept_name, min(salary) as min_salary from instructor group by dept_name
c. Add names to list
   i. SELECT instructor.dept_name, instructor.name as instructor_name, instructor.salary AS max_salary FROM instructor join (Select dept_name, MAX(salary) as max_salary from instructor group by dept_name) max_salaries ON instructor.dept_name = max_salaries.dept_name and instructor.salary = max_salaries.max_salary

Question 4

find instructors with name and ID who has never given an A grade in any course she/he has taught (instructors who have never taught trivially satisfy)

select distinct instructor.name, instructor.ID from instructor left join teaches on instructor.ID = teaches.ID left join takes on teaches.course_id = takes.course_id and teaches.sec_id = takes.sec_id and teaches.semester = takes.semester and teaches.year = takes.year where takes.grade <> 'A' OR takes.grade is NULL