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DB lab3:  
  
1.  
a)  
SELECT title  
FROM course  
WHERE credits > 3;  
b)  
SELECT room\_number  
FROM classroom  
WHERE building ='Watson' OR  
 building = 'Packard';  
c)  
SELECT title  
FROM course  
WHERE dept\_name = 'Comp. Sci.';  
d)  
SELECT course.title  
FROM section, course  
WHERE section.semester = 'Fall' AND  
 (course.course\_id) = (section.course\_id);  
e)  
SELECT name  
FROM student  
WHERE tot\_cred BETWEEN 46 AND 89;  
f)  
SELECT name  
FROM student  
WHERE name LIKE '%i' OR  
 name LIKE '%a' OR  
 name LIKE '%e' OR  
 name LIKE '%y' OR  
 name LIKE '%u' OR  
 name LIKE '%o';  
g)  
SELECT course.title  
FROM course, prereq  
WHERE course.course\_id = prereq.course\_id AND  
 prereq\_id = 'CS-101';  
  
2.  
a)  
SELECT DISTINCT dept\_name, AVG(salary) as av\_sal  
FROM instructor  
GROUP BY dept\_name  
ORDER BY av\_sal ASC;  
b)  
WITH add(name, val) as (SELECT building, count(building) FROM section GROUP BY building)  
SELECT DISTINCT section.building  
FROM section, add  
WHERE section.building = add.name AND add.val = SOME (SELECT MAX(val) FROM add);  
c)  
WITH add(name, val) as (SELECT dept\_name, count(dept\_name) FROM course GROUP BY dept\_name)  
SELECT DISTINCT course.dept\_name  
FROM course, add  
WHERE course.dept\_name = add.name AND add.val = SOME (SELECT MIN(val) FROM add);  
d)  
WITH add(id, val) as (  
 SELECT id, count(course\_id) FROM takes WHERE course\_id in (  
 SELECT course\_id FROM course WHERE dept\_name = 'Comp. Sci.') GROUP BY id)  
SELECT DISTINCT student.id, student.name  
FROM student, add  
WHERE add.val > 3 AND add.id = student.id  
GROUP BY student.id;  
e)  
SELECT name  
FROM instructor  
WHERE dept\_name = 'Biology' OR  
 dept\_name = 'Philosophy' OR  
 dept\_name = 'Music'  
f)  
SELECT DISTINCT instructor.name  
FROM instructor, teaches  
WHERE instructor.id = teaches.id AND teaches.id in (  
 SELECT id  
 FROM teaches  
 WHERE year = 2018) AND  
 teaches.id not in (  
 SELECT id  
 FROM teaches  
 WHERE year = 2017);  
  
3.  
a)  
SELECT DISTINCT student.name  
FROM student, takes  
WHERE takes.id = student.id AND  
 (takes.grade = 'A' OR takes.grade = 'A-') AND  
 takes.course\_id in (  
 SELECT course\_id  
 FROM course  
 WHERE course.dept\_name = 'Comp. Sci.')  
ORDER BY student.name ASC;  
b)  
SELECT DISTINCT instructor.name  
FROM advisor, instructor, takes  
WHERE advisor.i\_id = instructor.id  
 AND advisor.s\_id = takes.id  
 AND ((takes.grade != 'A'  
 AND takes.grade != 'A-'  
 AND takes.grade != 'B+'  
 AND takes.grade != 'B')  
 OR (takes.grade is NULL));  
c)  
SELECT DISTINCT course.dept\_name  
FROM course, takes  
WHERE takes.course\_id = course.course\_id  
 AND course.dept\_name not in (  
 SELECT dept\_name FROM course WHERE course\_id in (  
 SELECT course\_id FROM takes WHERE grade = 'F' OR grade = 'C'));  
d)  
SELECT instructor.name  
FROM instructor, teaches  
WHERE instructor.id = teaches.id AND instructor.id not in (  
 SELECT teaches.id   
 FROM takes, teaches   
 WHERE takes.course\_id = teaches.course\_id AND  
 takes.year = teaches.year AND  
 takes.semester = teaches.semester AND  
 takes.grade = 'A')  
e)  
SELECT DISTINCT course.title, course.course\_id  
FROM course, section, time\_slot  
WHERE course.course\_id = section.course\_id AND  
 time\_slot.time\_slot\_id = section.time\_slot\_id AND  
 course.course\_id not in (  
 SELECT section.course\_id  
 FROM section, time\_slot  
 WHERE section.time\_slot\_id = time\_slot.time\_slot\_id AND  
 ((time\_slot.end\_hr = 13 AND time\_slot.end\_min != 0) OR (time\_slot.end\_hr > 13)))