-- Task 1 --  
  
-- a  
select \* from course  
where credits>3;  
  
-- b  
select building, room\_number from classroom  
where building = 'Packard' or building = 'Watson';  
  
-- c  
select course\_id, dept\_name from course  
where dept\_name = 'Comp. Sci.';  
  
-- d  
select course\_id, semester from section  
where semester = 'Fall';  
  
-- e  
select id, name, tot\_cred from student  
where tot\_cred between 45 and 90;  
  
-- f  
select name from student  
where name like '%a' or  
 name like '%e' or  
 name like '%i' or  
 name like '%o' or  
 name like '%u' or  
 name like '%y';  
  
-- g  
select course\_id, prereq\_id from prereq  
where prereq\_id = 'CS-101';

-- Task 2 --  
  
-- a  
select dept\_name, avg(salary) as avg\_salary from instructor  
group by dept\_name  
order by avg\_salary;  
  
-- b  
select count(course\_id),building from section  
group by building  
order by count (course\_id) desc  
limit 1;  
  
-- c  
select dept\_name, count(course\_id) as count\_course\_id  
from course group by dept\_name  
order by count\_course\_id limit 1;  
  
-- d  
select name, ID, count\_id from(select student.name,takes.ID, count(takes.ID) as count\_id from student, takes  
where takes.ID=student.ID and takes.course\_id like 'CS%'  
group by takes.ID, student.name) as IT\_students  
where count\_id > 3;  
  
-- e  
select name, dept\_name from instructor  
where dept\_name = 'Music' or dept\_name = 'Biology' or dept\_name ='Philosophy';  
  
-- f  
select \* from (select instructor.id, instructor.name, year from instructor, teaches  
where instructor.id = teaches.id) as teaching  
where year = 2018 and year != 2017;

-- Task 3 --  
  
-- a  
-- select \* from takes where course\_id like 'CS%' and grade = 'A' or grade = 'A-'  
select student.name, student.id  
from student, (select takes.id, course\_id, grade from takes  
 where course\_id like 'CS%' and grade = 'A' or grade = 'A-') as taking  
where student.id = taking.id  
group by name, student.id  
order by name;  
  
-- b  
select id, name  
from instructor,(select advisor.i\_id  
 from advisor, (select takes.id, course\_id, grade from takes  
 where grade != 'A' and grade != 'A-' and grade != 'B' and grade != 'B+') as taking  
 where advisor.s\_id = taking.id) as advisors  
where instructor.id = advisors.i\_id;  
  
-- c  
select distinct dept\_name from course  
where not dept\_name in  
 (select distinct dept\_name from course  
 where course\_id in  
 (select course\_id from takes  
 where grade like 'F%' or grade like 'C%'))  
  
-- d  
select id, name from instructor  
where id in (  
select id from teaches  
 where course\_id not in (select course\_id from takes where grade like 'A%'));  
  
-- e  
select distinct course\_id, morning\_course.end\_hr  
from section, (select time\_slot\_id, end\_hr from time\_slot  
 where end\_hr<13) as morning\_course  
where section.time\_slot\_id = morning\_course.time\_slot\_id;