1.

a) select \* from course where credits > 3;

b) select \* from classroom where building = 'Watson' or building = 'Packard';

c) select \* from course where dept\_name = 'Comp. Sci.';

d) select \* from section where semester = 'Fall';

e) select \* from student where tot\_cred between 46 and 89;

f) select \* from student where name like '%a' or name like '%e' or name like '%y' or name like '%u' or name like '%i' or name like '%o';

g) select \* from prereq where prereq\_id = 'CS-101';

2. a)

select dept\_name, avg(salary) cnt

from instructor

group by dept\_name

order by cnt asc;

b) select building, cnt from (select building, count(sec\_id) cnt

from section

group by building

order by cnt desc) as a

where cnt = (select max(cnt) from (select building, count(sec\_id) cnt

from section

group by building

order by cnt desc) as a);

c)

select dept\_name, cnt from (select dept\_name, count(course\_id) cnt

from course

group by dept\_name

order by cnt asc) as a

where cnt = (select min(cnt) from (select dept\_name, count(course\_id) cnt

from course

group by dept\_name

order by cnt asc) as a);

d)

select id, name from student

where id in (select id from (select id,count(1) cnt from takes

where course\_id like 'CS%'

group by id) as b

where cnt>3)

e)

select id, name from instructor

where dept\_name = 'Biology' or dept\_name = 'Philosophy' or dept\_name = 'Music';

f)

select distinct instructor.id, instructor.name,instructor.dept\_name, instructor.salary

from instructor,teaches

where instructor.id=teaches.id and teaches.year=2018

and teaches.id not in (select instructor.id

from instructor,teaches

where teaches.year=2017 and instructor.id=teaches.id )

3.

a)

select student.id,student.name from student,takes,course

WHERE student.id=takes.id and takes.course\_id=course.course\_id

and course.dept\_name='Comp. Sci.' and (takes.grade='A' or

takes.grade='A-')

group by student.id

order by student.name;

b)

select \* from instructor where instructor.id in

(select advisor.i\_id from advisor,student,takes

where advisor.s\_id=student.id and takes.id=student.id

and (takes.grade!='A' and takes.grade!='A-' and

takes.grade!='B+'and takes.grade!='B' or takes.grade is null))

c)

select dept\_name from department where department.dept\_name

not in (select distinct department.dept\_name

from department,student,takes

where department.dept\_name=student.dept\_name and

student.id=takes.id and (takes.grade='F' or takes.grade='C'))

d)

select id,name from instructor where instructor.id not in

(select distinct instructor.id from instructor,teaches,takes

where instructor.id=teaches.id and

teaches.course\_id=takes.course\_id and takes.grade='A')

e)

select distinct course.course\_id,course.title from course,section,time\_slot

where section.time\_slot\_id=time\_slot.time\_slot\_id and end\_hr<=13 and section.course\_id=course.course\_id;