1.

a. `select * from course where credits > 3;`

	course_id	title	dept_name	credits
1	BIO-101	Intro. to Biology	Biology	4
2	BIO-301	Genetics	Biology	4
3	CS-101	Intro. to Computer Science	Comp. Sci.	4
4	CS-190	Game Design	Comp. Sci.	4
5	PHY-101	Physical Principles	Physics	4

b. `select * from classroom where building = 'Watson' or building = 'Packard';`

	building	room_number	capacity
1	Packard	101	500
2	Watson	100	30
3	Watson	120	50

c. `select * from course where dept_name = 'Comp. Sci.';`

	course_id	title	dept_name	credits
1	CS-101	Intro. to Computer Science	Comp. Sci.	4
2	CS-190	Game Design	Comp. Sci.	4
3	CS-315	Robotics	Comp. Sci.	3
4	CS-319	Image Processing	Comp. Sci.	3
5	CS-347	Database System Concepts	Comp. Sci.	3

d. ```select course.course_id, title, dept_name, credits, semester
   from course, section
   where course.course_id = section.course_id and semester = 'Fall';```

	course_id	title	dept_name	credits	semester
1	CS-101	Intro. to Computer Science	Comp. Sci.	4	Fall
2	CS-347	Database System Concepts	Comp. Sci.	3	Fall
3	PHY-101	Physical Principles	Physics	4	Fall

e. `select * from student where tot_cred > 45 and tot_cred < 90;`

	id	name	dept_name	tot_cred
1	19991	Brandt	History	80
2	44553	Peltier	Physics	56
3	45678	Levy	Physics	46
4	54321	Williams	Comp. Sci.	54
5	76543	Brown	Comp. Sci.	58
6	76653	Aoi	Elec. Eng.	60

f. ```select * from student where name like '%a'
                       or name like '%e'
                       or name like '%o'
                       or name like '%i'
                       or name like '%u';```

	id	name	dept_name	tot_cred
1	76653	Aoi	Elec. Eng.	60
2	98988	Tanaka	Biology	120

```sql
g. select course.course_id, course.title, course.dept_name, prereq_id from
course, prereq
    where prereq.course_id = course.course_id and prereq_id = 'CS-101';
```

	course_id	title	dept_name	prereq_id
1	CS-190	Game Design	Comp. Sci.	CS-101
2	CS-315	Robotics	Comp. Sci.	CS-101
3	CS-319	Image Processing	Comp. Sci.	CS-101
4	CS-347	Database System Concepts	Comp. Sci.	CS-101

2.
```sql
a. select dept_name, round(avg(salary)) as avg_salary
    from instructor
    group by dept_name
    order by avg_salary asc;
```

	dept_name	avg_salary
1	Music	40000
2	History	61000
3	Biology	72000
4	Comp. Sci.	77333
5	Elec. Eng.	80000
6	Finance	85000
7	Physics	91000

```sql
e. select * from instructor
    where name in(
        (select name from instructor where dept_name = 'Biology') union
        (select name from instructor where dept_name = 'Philosophy') union
        (select name from instructor where dept_name = 'Music'));
```

	id	name	dept_name	salary
1	15151	Mozart	Music	40000.00
2	76766	Crick	Biology	72000.00

```sql
f. select instructor.name from instructor
    where instructor.name in (
        (select instructor.name
        from  instructor, teaches
        where instructor.id = teaches.id and teaches.year = 2018)
        except
        (select instructor.name
        from  instructor, teaches
        where instructor.id = teaches.id and teaches.year = 2017));
```

	name
1	Wu
2	Mozart
3	El Said
4	Katz

3.

a.
```sql
select distinct student.id, student.name, student.dept_name, takes.grade
   from student, takes
   where student.id = takes.id and student.dept_name = 'Comp. Sci.'
     and (takes.grade = 'A' or takes.grade = 'A-')
   order by student.name;
```

	id	name	dept_name	grade
1	76543	Brown	Comp. Sci.	A
2	12345	Shankar	Comp. Sci.	A
3	54321	Williams	Comp. Sci.	A-
4	00128	Zhang	Comp. Sci.	A
5	00128	Zhang	Comp. Sci.	A-

b.
```sql
select distinct instructor.name
   from instructor, takes, advisor
   where instructor.id = advisor.i_id and advisor.s_id = takes.ID
   and (takes.grade = 'B-' or takes.grade = 'C+' or takes.grade = 'C'
         or takes.grade = 'C-' or takes.grade = 'F' or takes.grade is
null);
```

	name
1	Crick
2	Einstein
3	Kim
4	Singh
5	Srinivasan

c.
```sql
select distinct dept_name from student
   where dept_name not in (select dept_name from student, takes
       where student.id = takes.id and (takes.grade = 'C' or takes.grade =
'F'));
```

	dept_name
1	Finance
2	History
3	Music
4	Biology

d.
```sql
select distinct instructor.name from instructor
   where instructor.name not in (select instructor.name from instructor,
teaches, takes
       where instructor.id = teaches.id and teaches.course_id =
takes.course_id and takes.grade = 'A');
```

	name
1	Einstein
2	Singh
3	Kim
4	El Said
5	Wu
6	Gold
7	Califieri
8	Mozart

```
e. select distinct course.title from course, time_slot, section
       where section.time_slot_id = time_slot.time_slot_id and section.course_id
= course.course_id and
              (time_slot.end_hr <= 13);
```

	title
1	Music Video Production
2	Robotics
3	Game Design
4	Intro. to Computer Science
5	Database System Concepts
6	Genetics
7	Intro. to Biology
8	World History
9	Intro. to Digital Systems
10	Physical Principles
11	Investment Banking
12	Image Processing