Assignment 2 of CISC 3000

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3.1

a

```
select  title
from    course
where   credits     =3          and
        dept_name   ='Comp.Sci'
```

b

```
select  distinct takes.ID
from    takes, instructor, teaches
where   takes.course_id =teaches.course_id      and
        takes.sec_id    =teaches.sec_id         and
        takes.semester  =teaches.semester       and
        takes.year      =teaches.year           and
        teaches.ID      =instructor.id          and
        instructor.name ='Einstein'
```

c

```
select  max(salary)
from    instructor
```

d

```
select  ID, name
from    instructor
where   salary      =(
            select  max(salary)
            from    instructor)
```

e

```
select  course_id, sec_id,
        (select count(ID)
        form    takes
        where   takes.year      =section.year       and
                takes.semester  =section.semester   and
                takes.course_id =section.course_id  and
                takes.sec_id    =section.sec_id     and
        )
        as enrollment
from    section
where   semester    =’Fall’ and
        year        =2017
```

f

```
select  max(enrollment)
from    (select     count(ID) as enrollment
        from        section, takes
        where       takes.year      =section.year       and
                    takes.semester  =section.semester   and
                    takes.course_id =section.course_id  and
                    takes.sec_id    =section.sec_id     and
                    takes.semester  =’Fall’             and
                    takes.year      =2017
        group by    takes.course_id, takes.sec_id
        )
```

g

```
with    num_enrollment  as(
        select          takes.course_id,takes.sec_id,
                        count(ID) as enrollment
        from            section, takes
        where           takes.year      =section.year       and
                        takes.semester  =section.semester   and
                        takes.course_id =section.course_id  and
                        takes.sec_id    =section.sec_id     and
                        takes.semester  ='Fall'             and
                        takes.year      =2017
        group by        takes.course_id, takes.sec_id
        )
select course_id, sec_id
from    num_enrollment
where   enrollment  =(
            select  max(enrollment)
            from num_enrollment
        )
```

3.3

a

```
update  instructor
set     salary      =salary*1.10
where   dept_name   ='Comp.Sci'
```

b

```
delete  from course
where   course_id not in(
        select course_id from section
)
```

c

```
insert into instructor
select      ID, name, dept_name, 10000
from        student
where       tot_cred>100
```

3.8

a

```
select  ID
from    depositor
except(
        select  ID
        from    borrower
)
```

b

```
select  A.ID
from    customer as A, customer as B
where   A.customer_street   =B.customer_street  and
        A.customer_city     =B.customer_city    and
        B.ID                =’12345’
```

c

```
select  distinct branch_name
from    account, depositor, customer
where   customer_city   =’Harrison’     and
        customer.ID     =depositor.ID   and
        account.account_number
                        =depositor.account_number
                                        and
```

3.9

a

```
select  employee.ID, person_name, city
from    employee, works
where   employee.ID         =works.ID   and
        works.company_name  =’First Bank Corporation’
```

b

```
select  employee.ID, person_name, city
from    employee, works
where   employee.ID         =works.ID   and
        works.salary        >10000      and
        works.company_name  ='First Bank Corporation'
```

c

```
select  ID
from    works
where   works.company_name  <>'First Bank Corporation'
```

d

```
select  ID
from    works
where   salary > all(
    select  salary
    from    works
    where   company_name    ='Small Bank Corporation'
)
```

e

```
select  A.company_name
from    company as A, company as B
where   A.city          =B.city and
        B.company_name  ='Small Bank Corporation'
```

f

```
select  company_name
from    works
group by    company_name
having  count(distinct ID) >=all(
    select  count(distinct ID)
    from    works
    group by    company_name
)
```

g

```
select  company_name
from    works
group by company_name
having avg(salary) >= (
    select  avg(salary)
    from    works
    where   company_name    ='First Bank Corporation'
)
```