5.15

a

```
create function ave(namee varchar(20))
returns integer
begin
    declare res integer;
        select avg(salary) into res
        from works
        where company_name = namee;
    return res;
end

select distinct company_name
from works
where ave(company_name) > ave("First Bank Corporation");
```

b

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

5.17

Embedded SQL:

- Suitable for designing interaction with the user
- Safety problem may arise
- Possible worse efficiency because of the host code

SQL functions:

- Extend the ability to implement a series of complex operations on a certain degree
- Not friendly to users
- Generally safer and faster

I may use embedded SQL when I am designing a surface for other users or when I have to use some operations that SQL doesn't support. I would like to use SQL functions when the operations are not too complex or I manage the database all for myself.

5.21

Name the deleted tuple of *s* as α:

1. The trigger is called when α is deleted
2. The trigger scan all the tuples of relation *r*
3. If a tuple of *r*, whose foreign key *B* is the same as the primary key *A* of α, is found, the trigger deletes this tuple from *r*