4.7

```
create table employee(
    id int,
    person_name varchar (30),
    street varchar (30),
    city varchar (30),
    primary key (id)
);
create table company(
    company_name varchar (30),
    city varchar (30),
    primary key (company_name)
);
create table works(
    id int,
    company_name varchar (30),
    salary numeric (10,2),
    primary key (id),
    foreign key (id) references employee (id),
    foreign key (company_name) references company (company_name),
);
create table manages(
    id int,
    manager_id int,
    primary key (id)
    foreign key (id) references employee(id),
    foreign key (manager_id) references employee(id),
);
```

4.16

```
select s.ID
from student s left outer join takes t
    on s.ID = t.ID
where t.ID is null ;
```