Discussion 3

3-1

What is an integrity constraints?

테이블의 relation에 입력되는 값들이 지켜야 할 조건, e.g. 데이터 타입, null 허용, primary key or not, etc.

3-2

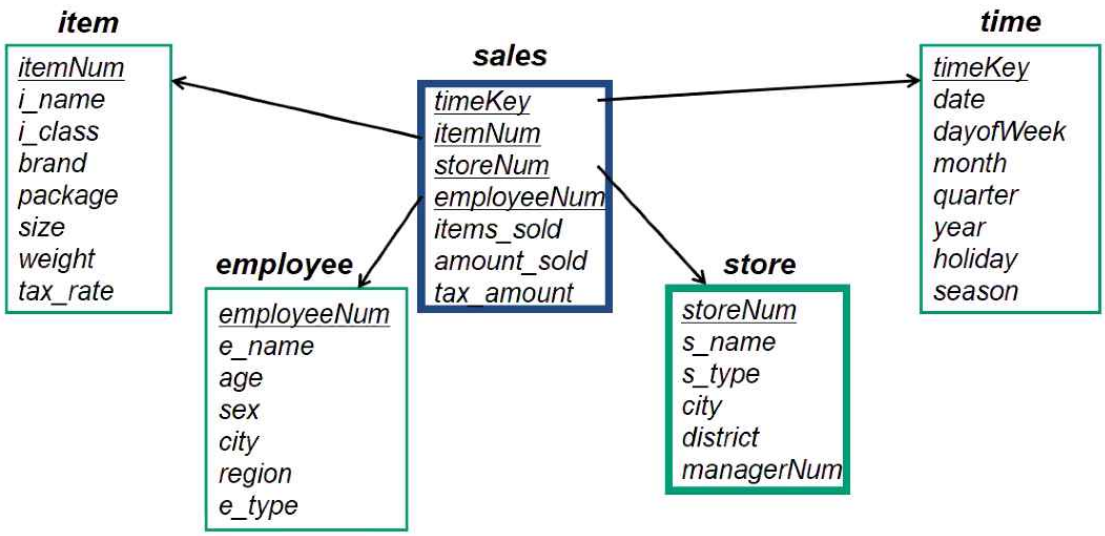
Why are integrity constraint declarations, such as *primary key* and *foreign key*, part of the **create table** statement instead of, say, the **select** or **insert** statement?

integrity constraints는 테이블들의 attribute들에서 동일하게 지켜야 할 조건인데, create table에서 조건을 정의해두면 단 한번의 정의만 필요하지만 select와 insert에서 각각 조건을 정의하면 매 쿼리마다 제약을 줘야 하므로 불필요하게 많이 사용하고, 또 select, insert에서 조건을 다르게 줄 경우 같은 attribute에 서로 다른 integrity constraints가 생길 수 있다.

=〉 교수님 설명: Relation의 schema에 대해 integrity constraints를 정의하므로 모든 instance에서 조건을 지켜야 한다. select와 insert에서 사용할 경우 instance에 조건을 주게 되는 것.

3-3

- Write **create table** statements for tables *sales* and *store*. Assign appropriate data types and specify relevant constraints.



```
create table sales(
        timeKey             Int,
        itemNum             Int,
        storeNum            Int,
        employeeNum         Int,
        items_sold          Int,
        amount_sold         Int,
        tax_amount          Int,
        primary key (timeKey, itemNum, storeNum, employeeNum),
        foreign key (timeKey) references time,
        foreign key (itemNum) references item,
        foreign key (storeNum) references store,
        foreign key (employeeNum) references employee
);

create table store(
        storeNum    int primary key,
        s_name      varchar,
        s_type      varchar,
        city        varchar,
        district    varchar,
        managerNum int
);
```

3-4

person (*person_name*, *street*, *city*)
company (*company_name*, *city*)
works (*person_name*, *company_name*, *salary*)

Using the above database schema, represent the following queries in *SQL*.

A. *Find all names of persons.*
B. *Find the names of persons who live in "Seoul"*

A. select person_name from person
B. select person_name from person where city="Seoul"

3-5

person (*person_name*, *street*, *city*)
company (*company_name*, *city*)
works (*person_name*, *company_name*, *salary*)

Using the above database schema, represent the following queries in *SQL*.

A. *Find names of people who work for "SNU" and earn more than 1,000,000*
B. *Find salaries for persons who live in 'Seoul'*
C. *Find names of persons who live in 'Seoul' but work in 'Incheon'*

A. select person_name from works where company_name="SNU" and salary 〉= 1000000
B. select salary from person, works where works.person_name=person.person_name and city="Seoul"
C. select person.person_name from person, company, works where person.person_name=works.person_name
and works.company_name=company.company_name
and person.city="Seoul"
and company.city="Incheon"