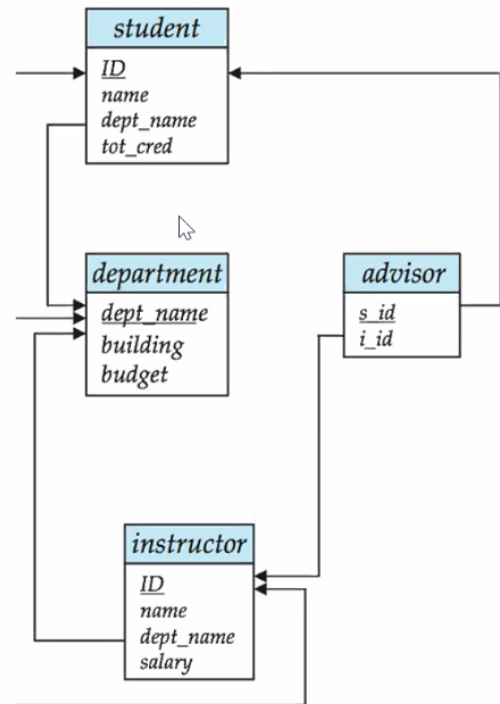


## Discussion 03

### Discussion 3-6

Represent the following query in SQL.

- Find instructors whose name starts with 'E' and ends with an 'n'.



select name from instructor where name like "E%" and name like "%n"

3-7

- A. Find instructor (ID and name) and student pairs (ID and name) where the instructor is the advisor of the student.

A. Select i.id, i.name, s.id, s.name from student as s, instructor as i, advisor as a where  
i.id = a.i\_id and s.id = a.s\_id

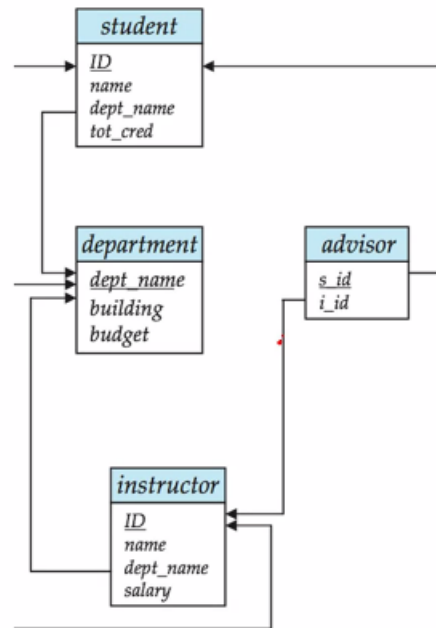
B. Rename the columns of the output of the previous query as *Adv\_ID*, *Adv\_Name*, *Stu\_ID*, *Stu\_Name*

B. Select i.id as Adv\_id, i.name as Adv\_Name, s.id as Stu\_id, s.name as Stu\_name 그리고 from 절부터는 같음.

## Discussion 3-8

Represent the following query in SQL.

A. Find name of students who has an advisor



A. select s.name from student as s, advisor as a where a.s\_id = s.id

B. Find ID of students who do not have an advisor

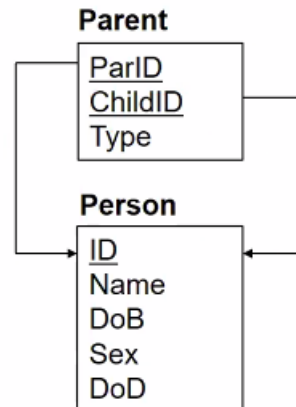
B. (select id from student) - (select s\_id from advisor)

=> select s.id from student as s where not exists (select \* from advisor where s.id = s\_id)  
라는 방법도 있다고 한다.

## Discussion 3-9

Represent the following queries in SQL.

- A. Find the grand children of James Kim (ID: 103999).
- B. Find the descendants of James Kim (ID: 103999).



A. select c.name from person as c, parent as p where p.ParID=103999 and p.ChildID = c.ID

=> 교수님 풀이: select g.ID, g.name from parent p1, parent p2, person g where p1.ParID = 103999 and p1.ChildID = p2.ParID and p2.ChildID = g.ID

B. 4 대손까지를 먼저 구해보고, 그 다음에 모두 구하면 어떻게 하면 될지 생각해보기

1 대손은

Select c.ID, c.name from parent as p, person as c where p.ParID=103999 and p.ChildID = c.ID

N = 1 => p = p1

2 대손은

select c.ID, c.name from (select p1.ParID, p2.ChildID from p1, p2 where p1.ChildID = p2.ParID) as p, person as c where p.ParID = 103999 and p.ChildID = c.id

n = 2 => (select p1.ParID, p2.ChildID from p1, p2 where p1.ChildID = p2.ParID) = p1

3 대손은

Select c.ID, c.name from (select p1.ParID, p2.ChildID from p1, p2 where p1.ChildID = p2.ParID) as p, person as c where p.ParID=103999 and p.ChildID=c.ID

N = 3 => n 이 2 일때 계산 값을 p1 으로 주고 p2 붙이고..

즉 이전 테이블의 from 절 계산 결과를 p1 이라고 하고 parent 테이블을 하나 더 붙여서 재귀적으로 계산하면 될 것 같음.

➔ 이걸 SQL 자체로 구할 순 없다고 한다. Transitive closure 를 구하려면 programming language 의 도움을 받아야 함.