

Homework 5:

3.12:

a. insert into course

values ('CS-001', 'Weekly Seminar', 'Comp. Sci.', 0)

b. insert into section

values ('CS-001', 1, 'Autumn', 2009, null, null, null)

c. insert into takes

select ID, 'CS-001', 1, 'Autumn', 2009, null

from student

where dept_name = 'Comp. Sci.'

d. delete from takes

where course_id = 'CS-001' and sec_id = 1 and semester = 'Autumn'

and year = 2009 and ID in (select ID

from student

where name = 'chavez')

e. delete from takes

where course_id = 'CS-001'

delete from section

where course_id = 'CS-001'

delete from course

where course_id = 'CS-001'

IF we delete course before delete tuples in section schema, the delete action will fail. Because if we do not delete the tuples in takes and section schemas that course has foreign key references. First, takes and section cannot refer back to course, which leads to the fail delete action.

f. delete from takes

where course_id in (select course_id

from course

where title like '%database%')

3.17:

a. update works

set salary = salary * 1.1

where company_name = 'First Bank Corporation'

b. update works

set salary = salary * 1.1

where company_name = 'First Bank Corporation' and

and employee_name in (select manager_name
from manages)

c. delete from works

where company_name = 'Small Bank Corporation'

8.25:

A relation r could be:

α	β	γ
a_1	b_1	b, y_1
a_1	b_1	b, y_2

this r relation satisfies $\alpha \rightarrow \beta$ & $\gamma \rightarrow \beta$, but not $\alpha \rightarrow \gamma$
because α can determine β and γ can determine β (β is the subset of γ),
but α cannot determine γ

8.27:

To compute B^+ , we first start with B

$\because B \rightarrow D$, so result now becomes (B, D)

Because there is no other functional dependencies can satisfy $\alpha \subseteq$ result relation,
the final result of B^+ is (B, D)