## 20337251伍建霖

## 理论课homework1

### 3.11

# a.

SELECT `name`

FROM student NATURAL JOIN takes NATURAL JOIN course

WHERE dept\_name = 'Comp. Sci.'

# b.

SELECT `ID`, `name`

FROM student

EXCEPT

SELECT `ID`, `name`

FROM student NATURAL JOIN takes

WHERE `year` < 2009

# c.

SELECT `dept\_name`, MAX(salary)

FROM instructor

GROUP BY dept\_name

#d.

SELECT MAX(salary)

FROM

(SELECT `dept\_name`, MAX(salary)

FROM instructor

GROUP BY dept\_name)

### 3.12

# a.

INSERT INTO course

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

# b.

INSERT INTO section(`year`, semester, sec\_id)

VALUES('2009', 'Fall', 1)

# c.

INSERT INTO takes

SELECT ID, 'CS-001', 1, 'Fall', '2009', NULL

FROM student

WHERE dept\_name = 'Comp. Sci.'

# d.

DELETE FROM takes

WHERE course\_id = 'CS-001' AND sec\_id = 1 AND semester = 'Fall' 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'

#上面的顺序不能改变，因为takes的course\_id外码依赖于section，

# section的course\_id外码依赖于course，改变顺序会导致外码冲突

# f.

DELETE FROM takes

WHERE course\_id IN

(SELECT course\_id

FROM course

WHERE LOWER(title) LIKE '%database%')

### 3.21

# a.

select distinct name from member natural join borrowed natural join book

where publisher ='McGraw-Hill'

# b.

with Mc\_num(m\_no,is) as

(select memb\_no,isbn from borrowed natural join

where publisher ='McGraw-Hill')

select name from member where memb\_no in

(select m\_no from Mc\_num

group by m\_no having count(is) =

(select count(isbn) from book where publisher= 'McGraw-Hill')

)

# c.

select name,publisher from member natural join book natural join borrowed

group by name,publisher having count(isbn)>5

# d.

select(select count(\*) from borrowed)/ (select count(\*)from member) FROM dual

### 3.22

where 1>=(select count(title) from course)