16337341(朱志儒)数据库系统作业2

4.12 使用外连接：

SELECT employee\_name

FROM employee NATURAL LEFT OUTER JOIN manages

WHERE manager\_name IS NULL;

不使用外连接：

SELECT employee\_name

FROM employee

WHERE employee\_name NOT IN (SELECT employee\_name

FROM employee NATURAL JOIN manages

WHERE manager\_name IS NOT NULL);

4.14

CREATE VIEW tot\_credits(year, num\_credits) AS

SELECT year, SUM(credits)

FROM student NATURAL JOIN takes NATURAL JOIN course

GROUP BY year;

4.16

a.

CREATE ASSERTION name\_constraint CHECK

(NOT EXISTS (SELECT \*

FROM address

WHERE name NOT IN ((

SELECT name

FROM salaried\_worker)

UNION

(SELECT name

FROM hourly\_worker))));

b. 为使这种形式的约束生效，系统不仅在address中插入或修改元组时必须检测该条件，而且在salaried\_worker或hourly\_worker关系改变时也必须检测该条件。

4.18 因为拥有所有权限的A把关系r上的查询权限以及授予该权限的权限授予了public，此时B又把该权限授予A，所以A、B、public都有查询权限以及授予该权限的权限，此时形成回路。但如果管理员收回A的所有权限，那么B、public都将失去查询权限以及授予该权限的权限。

5.12 Java程序功能：查找雇员名字为“dog”的经理。

5.16

WITH dept\_count(d\_name, d\_count) AS

(SELECT dept\_name, COUNT(ID)

FROM instructor

GROUP BY dept\_name)

SELECT dept\_name, budget

FROM department

WHERE dept\_name = dept\_count.d\_name AND dept\_count.d\_count > 12;

5.19

WITH RECURSIVE ppart(part\_id, subpart\_id) AS (

SELECT part\_id, subpart\_id

FROM subpart

UNION

SELECT ppart.part\_id, subpart.subpart\_id

FROM ppart, subpart

WHERE ppart.subpart\_id = subpart.part\_id

)

SELECT subpart\_id

FROM ppart

WHERE part\_id = 'P-100';

5.28

WITH max\_balance(value) AS

(SELECT MAX(balance)

FROM account)

SELECT COUNT(balance) OVER (PARTITION BY RANGE(balance) (

PARTITION P0 VALUES LESS THAN(max\_balance.value \* 1 / 3),

PARTITION P1 VALUES LESS THAN(max\_balance.value \* 2 / 3),

PARTITION P2 VALUES LESS THAN(max\_balance.value)

))

FROM account;