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一. 针对五版教材 P79, 学生-课程数据库实例  
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/\*1. 至少写出两种 SQL 语句描述查询年龄为 20 岁的同学所选课程的成绩, 要求两种写法使用的谓词 (EXISTS 为必选项) 是不同的。\*/

```
SELECT GRADE
FROM SC
WHERE EXISTS
(SELECT * FROM STUDENT
WHERE SNO=SC.SNO AND SAGE=20);
```

或

```
SELECT GRADE
FROM SC
WHERE SNO  /*IN*/ =ANY  /*IN 与=ANY 可替换*/
(SELECT SNO FROM STUDENT
WHERE STUDENT.SAGE=20);
```

/\*2. 将年龄为 20 岁同学所选课程的成绩增加 1 分。\*/

```
UPDATE SC SET GRADE=GRADE+1
WHERE SC.SNO IN
(SELECT SNO FROM STUDENT
WHERE SAGE=20);
```

/\*3. 查询多于 1 人选修的课程名及其先行课课程号码, 并按照课程名字降序排列。\*/

```
SELECT CNAME, CPNO
FROM COURSE
WHERE COURSE.CNO IN
(SELECT SC.CNO
FROM SC
GROUP BY CNO
HAVING COUNT(*)>1)
ORDER BY CNAME DESC;
```

/\*4. 查询等于 1 人选修的课程名及其先行课课程名。类似 5 版教材 P101 面 例 3.52\*/

```
SELECT X.CNAME, Y.CNAME  CP_NAME
FROM COURSE Y, COURSE X
WHERE Y.CNO=X.CPNO AND X.CNO =ANY
(SELECT SC.CNO
FROM SC
GROUP BY SC.CNO
HAVING COUNT(*)=1);
```

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二. 五版教材 P130 页 4, 5, 9 题

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/\*4.1 求供应工程 J1 零件的供应商号码 SNO\*/

```
SELECT DISTINCT SNO
FROM SPJ
WHERE JNO='J1';
```

/\*4.2 求供应工程 J1 零件 P1 的供应商号码 SNO\*/

```
SELECT SNO
FROM SPJ
WHERE JNO='J1' AND PNO='P1';
```

/\*4.3-1 求供应工程 J1 零件为红色的供应商号码 SNO\*/

```
SELECT SNO
FROM SPJ
WHERE JNO='J1'
AND PNO IN
  (SELECT PNO
   FROM P
   WHERE COLOR='红');
```

/\*4.3-2\*/

```
SELECT SNO
FROM SPJ,P
WHERE JNO='J1' AND SPJ.PNO=P.PNO AND COLOR='红';
```

/\*4.4-1 求没有使用天津供应商生产的红色零件工程号 JNO\*/

```
SELECT JNO
FROM J
WHERE NOT EXISTS
  (SELECT *
   FROM SPJ
   WHERE SPJ.JNO=J.JNO
    AND SNO IN
      (SELECT SNO
       FROM S
       WHERE CITY='天津')
    AND PNO IN
      (SELECT PNO
       FROM P
       WHERE COLOR='红'));
```

/\*4.4-2\*/

```
SELECT JNO
FROM J
WHERE NOT EXISTS
  (SELECT *
   FROM SPJ,S,P
   WHERE SPJ.JNO=J.JNO AND SPJ.SNO=S.SNO
        AND SPJ.PNO=P.PNO AND S.CITY='天津'
        AND P.COLOR='红');
```

/\*4.5 求至少用了供应商 S1 所供应的全部零件的工程号 JNO,参考 P111 例 3.63, p:供应商 S1 供应了零件 y, q: 工程 x 选用了零件 y\*/

/\*不存在这样的零件 y, 供应商 S1 供应了 y, 而工程 x 没有选用 y \*/

```
SELECT  DISTINCT JNO
FROM SPJ SPJZ
WHERE NOT EXISTS
  (SELECT *
   FROM SPJ SPJX
   WHERE SPJX.SNO='S1'
   AND NOT EXISTS
     (SELECT *
      FROM SPJ SPJY
      WHERE SPJY.PNO=SPJX.PNO
            AND SPJY.JNO=SPJZ.JNO));
```

/\*5.1 找出所有供应商的姓名和所在城市\*/

```
SELECT SNAME,CITY
FROM S;
```

/\*5.2 找出所有零件的名称、颜色、重量\*/

```
SELECT PNAME,COLOR,WEIGHT
FROM P;
```

/\*5.3 找出使用供应商 S1 所供应零件的工程号码\*/

```
SELECT JNO
FROM SPJ
WHERE SNO='S1';
```

/\*5.4 找出工程项目 J2 使用的各种零件的名称及其数量\*/

```
SELECT P.PNAME,SPJ.QTY
FROM P,SPJ
WHERE P.PNO=SPJ.PNO
      AND SPJ.JNO='J2';
```

/\*5.5 找出上海厂商供应的所有零件号码\*/

```
SELECT DISTINCT PNO
FROM SPJ
WHERE SNO IN
    (SELECT SNO
     FROM S
     WHERE CITY='上海');
```

/\*5.6-1 找出使用上海产的零件的名称\*/

```
SELECT JNAME
FROM J,SPJ,S
WHERE J.JNO=SPJ.JNO
    AND SPJ.SNO=S.SNO
    AND S.CITY='上海';
```

/\*5.6-2\*/

```
SELECT JNAME
FROM J
WHERE JNO IN
    (SELECT JNO
     FROM SPJ,S
     WHERE SPJ.SNO=S.SNO
        AND S.CITY='上海');
```

/\*5.7-1 找出没有使用天津产的零件的工程号码\*/

```
SELECT JNO
FROM J
WHERE NOT EXISTS
    (SELECT *
     FROM SPJ
     WHERE SPJ.JNO=J.JNO
        AND SNO IN
            (SELECT SNO
             FROM S
             WHERE CITY='天津'));
```

/\*5.7-2\*/

```
SELECT JNO
FROM J
WHERE NOT EXISTS
    (SELECT *
     FROM SPJ,S
     WHERE SPJ.JNO=J.JNO
        AND SPJ.SNO=S.SNO AND S.CITY='天津');
```

```
/*5.7-3*/  
SELECT JNO  
FROM J  
WHERE JNO NOT IN  
    (SELECT JNO  
     FROM SPJ,S  
     WHERE SPJ.SNO=S.SNO  
           AND S.CITY='天津');
```

```
/*5.7-4*/  
SELECT /*DISTINCT*/ JNO  
FROM J  
EXCEPT  
SELECT /*DISTINCT*/ JNO  
FROM SPJ,S  
WHERE SPJ.SNO=S.SNO  
AND S.CITY='天津';
```

```
/*5.8 把全部红色零件的颜色改为蓝色*/  
UPDATE P  
SET COLOR='蓝'  
WHERE COLOR='红';
```

```
/*5.9 由 S5 供给 J4 的零件 P6 改为由 S3 供应，请作必要修改*/  
UPDATE SPJ  
SET SNO='S3'  
WHERE SNO='S5'  
    AND JNO='J4'  
    AND PNO='P6';
```

```
/*5.10 从供应商关系中删除 S2 的记录，并从供应情况关系中删除相应的记录*/  
DELETE  
FROM SPJ  
WHERE SNO='S2';  
  
DELETE  
FROM S  
WHERE SNO='S2';
```

```
/*5.11 请将（S2，J6，P4，200 插入供应情况关系）*/  
/*5.11-1*/  
INSERT INTO SPJ(SNO,JNO,PNO,QTY)  
VALUES('S2','J6','P4','200');
```

/\*5.11-2\*/

```
INSERT INTO SPJ  
VALUES('S2','P4','J6','200');
```

/\*9.为三建工程项目建立一个供应情况的视图(包含 SNO\PNO\QTY)\*/

```
CREATE VIEW V_SPJ AS  
SELECT SNO,PNO,QTY  
FROM SPJ  
WHERE JNO=  
      (SELECT JNO  
       FROM J  
       WHERE JNAME='三建');
```

/\*9.1 找出三建工程项目使用的各种零件代码及其数量\*/

```
SELECT PNO,QTY FROM V_SPJ;
```

/\*9.2 找出供应商 S1 的供应情况\*/

```
SELECT PNO,QTY  
FROM V_SPJ  
WHERE SNO='S1';
```