

```
/*  
    学号: 1510122557  
    姓名: 陈昇辉  
*/
```

```
/*  
一、建库  
*/
```

--切换到主数据库

```
USE master;  
GO
```

```
CREATE DATABASE SPJ  
ON  
PRIMARY  
    (NAME=SPJ,  
    FILENAME='C:\SQLserver\data\spj\spjdata.mdf',  
    SIZE=100MB,  
    MAXSIZE=200,  
    FILEGROWTH=20)  
LOG ON  
    (NAME=SPJLOG,  
    FILENAME='C:\SQLserver\data\spj\spjlog.ldf',  
    SIZE=100MB,  
    MAXSIZE=200,  
    FILEGROWTH=20);  
GO
```

```
USE SPJ  
GO
```

```
/*  
二、建表  
*/
```

--S表

```
CREATE TABLE S(  
    SNO CHAR(4) PRIMARY KEY,  
    SNAME CHAR(10) NOT NULL,  
    STATUS SMALLINT NOT NULL,  
    CITY CHAR(10) NOT NULL
```

```

);
GO
--P表
CREATE TABLE P(
    PNO CHAR(4) PRIMARY KEY,
    PNAME CHAR(10) NOT NULL,
    COLOR CHAR(2) NOT NULL,
    WEIGHT SMALLINT NOT NULL
);
GO
--J表
CREATE TABLE J(
    JNO CHAR(4) PRIMARY KEY,
    JNAME CHAR(10) NOT NULL,
    CITY CHAR(10) NOT NULL
);
GO
--SPJ表
CREATE TABLE SPJ(
    SNO CHAR(4),
    PNO CHAR(4),
    JNO CHAR(4),
    QTY SMALLINT NOT NULL,
    FOREIGN KEY (SNO) REFERENCES S(SNO),
    FOREIGN KEY (PNO) REFERENCES P(PNO),
    FOREIGN KEY (JNO) REFERENCES J(JNO)
);
GO
/*****
三、插入数据
*****/
--S表
INSERT INTO S(SNO,SNAME,STATUS,CITY) VALUES('S1','精益',
20,'天津');
INSERT INTO S(SNO,SNAME,STATUS,CITY) VALUES('S2','盛锡',
10,'北京');
INSERT INTO S(SNO,SNAME,STATUS,CITY) VALUES('S3','东方红',
30,'北京');

```

```
INSERT INTO S(SNO,SNAME,STATUS,CITY) VALUES('S4','丰泰盛',
20,'天津');
```

```
INSERT INTO S(SNO,SNAME,STATUS,CITY) VALUES('S5','为民',
30,'上海');
```

--P表

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P1','螺
母','红',12);
```

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P2','螺
栓','绿',17);
```

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P3','螺丝
刀','蓝',14);
```

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P4','螺丝
刀','红',14);
```

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P5','凸
轮','蓝',40);
```

```
INSERT INTO P(PNO,PNAME,COLOR,WEIGHT) VALUES('P6','齿
轮','红',30);
```

--J表

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J1','三建','北京');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J2','一汽','长春');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J3','弹簧厂','天津');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J4','造船厂','天津');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J5','机车厂','唐山');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J6','无线电厂','常州');
```

```
INSERT INTO J(JNO,JNAME,CITY) VALUES('J7','半导体厂','南京');
```

GO

--SPJ表

```
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S1','P1','J1',
200);
```

```
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S1','P1','J3',
100);
```

```
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S1','P1','J4',
700);
```

```
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S1','P2','J2',
100);
```

```
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P3','J1',
400);
```

```

INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P3','J2',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P3','J4',
500);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P3','J5',
400);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P5','J1',
400);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P5','J2',
100);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S3','P1','J1',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S3','P3','J1',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S4','P5','J1',
100);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S4','P6','J3',
300);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S4','P6','J4',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S5','P2','J4',
100);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S5','P3','J1',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S5','P6','J2',
200);
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S5','P6','J4',
500);
/*****

```

### 三、查询数据

```

*****/

```

--1求供应工程J1零件的供应商号码SNO

```

SELECT DISTINCT SNO

```

```

FROM SPJ

```

```

WHERE JNO='J1'

```

--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'

```

--3求供应工程J1零件为红色的供应商号码SNO

```

SELECT DISTINCT SNO
FROM SPJ,P
WHERE SPJ.PNO=P.PNO AND P.COLOR='红' AND JNO='J1'
--4求没有使用天津供应商生产的红色零件的工程号JNO
SELECT JNO
FROM J
WHERE JNO NOT IN(
    SELECT DISTINCT JNO
    FROM SPJ,S,P
    WHERE SPJ.SNO=S.SNO AND SPJ.PNO=P.PNO AND CITY='天津'
    AND COLOR='红'
)
--5求至少用了供应商s1所供应的全部零件的工程号JNO
SELECT DISTINCT JNO
FROM SPJ SPJX
WHERE NOT EXISTS(
    SELECT *
    FROM SPJ SPJY
    WHERE SPJY.SNO='S1' AND NOT EXISTS(
        SELECT *
        FROM SPJ SPJZ
        WHERE SPJZ.JNO=SPJX.JNO AND
            SPJZ.PNO=SPJY.PNO AND
            SPJZ.SNO=SPJY.SNO
    )
)
--1找出所有供应商的姓名和所在城市
SELECT SNAME,CITY
FROM S
--2找出所有零件的名称、颜色、重量
SELECT DISTINCT PNAME,COLOR,WEIGHT
FROM P
--3找出使用供应商s1所供应零件的工程号码
SELECT DISTINCT JNO
FROM SPJ
WHERE SNO='S1'
--4找出工程项目J2使用的各种零件的名称及其数量
SELECT PNAME,SUM(QTY)QTY
FROM SPJ,P

```

```

WHERE SPJ.PNO=P.PNO AND JNO='J2'
GROUP BY PNAME
--5找出上海厂商供应的所有零件号码
SELECT DISTINCT PNO
FROM SPJ,S
WHERE SPJ.SNO=S.SNO AND S.CITY='上海'
--6找出使用上海产的零件的工程名称
SELECT DISTINCT JNAME
FROM SPJ,S,J
WHERE SPJ.SNO=S.SNO AND SPJ.JNO=J.JNO AND S.CITY='上海'
--7找出没有使用天津产的零件的工程号码
SELECT JNO
FROM J
WHERE JNO NOT IN(
    SELECT DISTINCT JNO
    FROM S,SPJ
    WHERE S.SNO=SPJ.SNO AND S.CITY='天津'
)
--8把全部红色零件的颜色改为蓝色
UPDATE P
SET COLOR='蓝'
WHERE COLOR='红'
--9由S5供给J4的零件P6改为由S3供应，请作必要的修改
UPDATE SPJ
SET SNO='S3'
WHERE SNO='S5' AND JNO='J4' AND PNO='P6'
--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'
GO
DELETE
FROM S
WHERE SNO='S2'
--11请将 (S2, J6, P4, 200) 插入供应情况关系
INSERT INTO SPJ(SNO,PNO,JNO,QTY) VALUES('S2','P4','J6',
200);

```