

(1)  $\pi_{\text{SNO}}(\sigma_{\text{JNO}=\text{'J1'}}(\text{SPJ}))$

(2)

$\pi_{SNO}(\sigma_{JNO='J1'} \wedge PNO='P1', SPJ))$

(3)

$\pi_{SNO}((\pi_{SNO,PNO}(\sigma_{JNO='J1},(SPJ)) \bowtie$

$\pi_{PNO}(\sigma_{COLOR='红'}, (P))))$

(4)

$$\pi_{JNO}(J) - \pi_{JNO}(\pi_{SNO}(\sigma_{CITY='天津'}(S)) \bowtie \\ \pi_{JNO,SNO,PNO}(SPJ) \bowtie \pi_{PNO}(\sigma_{COLOR='红'}(P)))$$

$$\pi_{JNO}(J) - \pi_{JNO}(\pi_{SNO}(\sigma_{CITY='天津'}(S))$$

$$\pi_{JNO, SNO, PNO}(SPJ)$$

SQLQuery2.sql -...RJ5MB7\hust (54)\*

```
>Select jno
From J
Where jno not in (
    Select jno
    From s, spj
    Where city='天津' and s.sno=spj.sno)
```

100 % <

结果 消息

	jno
1	J5
2	J6
3	J7

$$\pi_{JNO}(SPJ) - \pi_{JNO}(\pi_{SNO}(\sigma_{CITY='天津'}(S))$$
$$\pi_{JNO, SNO, PNO}(SPJ)$$

SQLQuery1.sql ....RJ5MB7\hust (59)\* X

```
>Select jno
  From SPJ
 Where jno not in (
   Select jno
     From s,spj
    Where city='天津' and s.sno=spj.sno)
```

100 % <

结果 消息

	jno
1	J5

$$\pi_{JNO}(\pi_{SNO}(\sigma_{CITY \neq '天津'}(S) \bowtie \pi_{JNO, SNO}(SPJ)))$$

```
└─Select jno
   From spj, s
   Where s.sno=spj.sno and s.city<>'天津'
```

100 % < >

结果 消息

	jno
1	J1
2	J2
3	J4
4	J5
5	J1
6	J2
7	J1
8	J1
9	J4
10	J1
11	J2
12	J4

(5)

$$\pi_{\text{JNO}, \text{PNO}}(\text{SPJ}) \div \pi_{\text{PNO}}(\sigma_{\text{SNO} = 'S1'}(\text{SPJ}))$$