

Examples of SQL

(subquery)

子查询

关系模式

顾客

Customers (cid, cname, city, discnt)

供应商

Agents (aid, aname, city, percent)

产品

Products (pid, pname, city, quantity, price)

订单

Orders (ordno, month, cid, aid, pid, qty, dollars)

Examples of Subquery

【例】 Get cid values of customers who order both products p01 and p07.

```
Select distinct x.cid  
From orders x  
Where pid = 'p01' and EXISTS (  
    Select *  
    From orders y  
    Where y.cid = x.cid and y.pid = 'p07' );
```

■ 如何用**IN**谓词来代替**EXISTS**谓词？

Select distinct x.cid

From orders x

Where pid = 'p01' and EXISTS (

Select *

From orders y

Where y.cid = x.cid and y.pid = 'p07');

Select distinct x.cid

From orders x

Where pid = 'p01' and cid IN (

Select y.cid

From orders y

Where y.pid = 'p07');

IN谓词+独立子查询

■ 如何用IN谓词+相关子查询来表示？

```
Select distinct x.cid
From orders x
Where pid = 'p01' and EXISTS (
    Select *
    From orders y
    Where y.cid = x.cid and y.pid = 'p07' );
```

```
Select distinct x.cid
From orders x
Where pid = 'p01' and 'p07' IN (
    Select y.pid
    From orders y
    Where y.cid = x.cid );
```

IN谓词+相关子查询

Select distinct x.cid

From orders x

Where pid = 'p01' and cid IN (

Select y.cid

From orders y

Where y.pid = 'p07');

Select distinct x.cid

From orders x

Where pid = 'p01' and 'p07' IN (

Select y.pid

From orders y

Where y.cid = x.cid);

Examples of Subquery

【例】 Get cid values of customers who order both products p01 and p07.

```
Select distinct x.cid  
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Where pid = 'p01' and EXISTS (  
    Select *  
    From orders y  
    Where y.cid = x.cid and y.pid = 'p07' );
```

■ 如何用多表联接查询来表示（不用嵌套子查询）？

Select distinct x.cid

From orders x

Where pid = 'p01' and EXISTS (

Select *

From orders y

Where y.cid = x.cid and y.pid = 'p07');

Select distinct x.cid

From orders x, orders y

Where x.pid = 'p01' and y.pid = 'p07'

and x.cid = y.cid ;

表的换名

两张表的联接