

# 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  
From orders x  
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