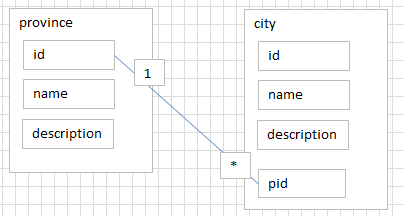
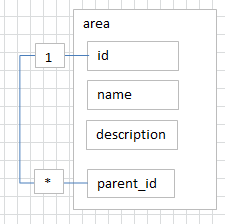
# 多表关系实战

## 实战1：省和市

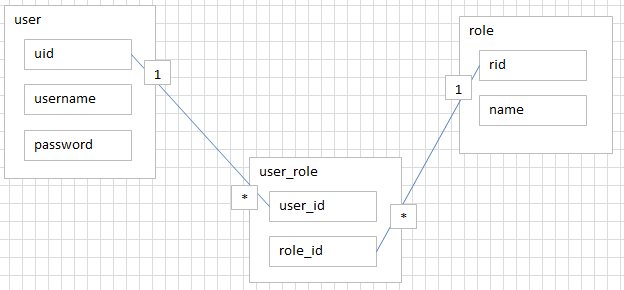
* 方案1：多张表，一对多



* 方案2：一张表，自关联一对多

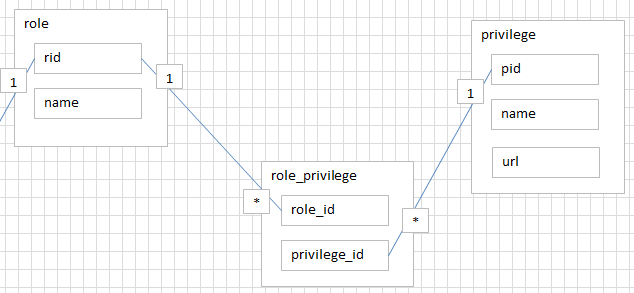


## 实战2：用户和角色



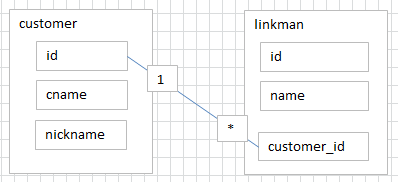
* 多对多关系

## 实战3：角色和权限



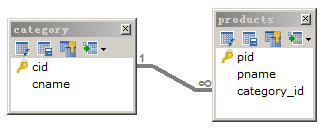
* 多对多关系

## 实战4：客户和联系人(可选)



* 一对多：一个客户服务于多个联系人

# 多表查询



CREATE TABLE category (

cid VARCHAR(32) PRIMARY KEY ,

cname VARCHAR(50)

);

CREATE TABLE products(

pid VARCHAR(32) PRIMARY KEY ,

pname VARCHAR(50),

price INT,

flag VARCHAR(2), #是否上架标记为：1表示上架、0表示下架

category\_id VARCHAR(32),

CONSTRAINT products\_fk FOREIGN KEY (category\_id) REFERENCES category (cid)

);

## 初始化数据

#分类

INSERT INTO category(cid,cname) VALUES('c001','家电');

INSERT INTO category(cid,cname) VALUES('c002','服饰');

INSERT INTO category(cid,cname) VALUES('c003','化妆品');

#商品

INSERT INTO products(pid, pname,price,flag,category\_id) VALUES('p001','联想',5000,'1','c001');

INSERT INTO products(pid, pname,price,flag,category\_id) VALUES('p002','海尔',3000,'1','c001');

INSERT INTO products(pid, pname,price,flag,category\_id) VALUES('p003','雷神',5000,'1','c001');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p004','JACK JONES',800,'1','c002');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p005','真维斯',200,'1','c002');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p006','花花公子',440,'1','c002');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p007','劲霸',2000,'1','c002');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p008','香奈儿',800,'1','c003');

INSERT INTO products (pid, pname,price,flag,category\_id) VALUES('p009','相宜本草',200,'1','c003');

## 多表查询

1. 交叉连接查询(基本不会使用-得到的是两个表的乘积) [了解]
   * 语法：select \* from A,B;
2. 内连接查询(使用的关键字 inner join -- inner可以省略)
   * 隐式内连接：select \* from A,B where 条件;
   * 显示内连接：select \* from A inner join B on 条件;
3. 外连接查询(使用的关键字 outer join -- outer可以省略)
   * 左外连接：left outer join
     + select \* from A left outer join B on 条件;
   * 右外连接：right outer join
     + select \* from A right outer join B on 条件;

#1.查询哪些分类的商品已经上架

#隐式内连接

SELECT DISTINCT c.cname FROM category c , products p

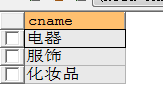
WHERE c.cid = p.category\_id AND p.flag = '1';

#内连接

SELECT DISTINCT c.cname FROM category c

INNER JOIN products p ON c.cid = p.category\_id

WHERE p.flag = '1';



#2.查询所有分类商品的个数

#左外连接

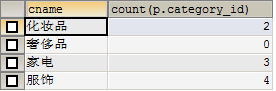
INSERT INTO category(cid,cname) VALUES('c004','奢侈品');

SELECT cname,COUNT(category\_id) FROM category c

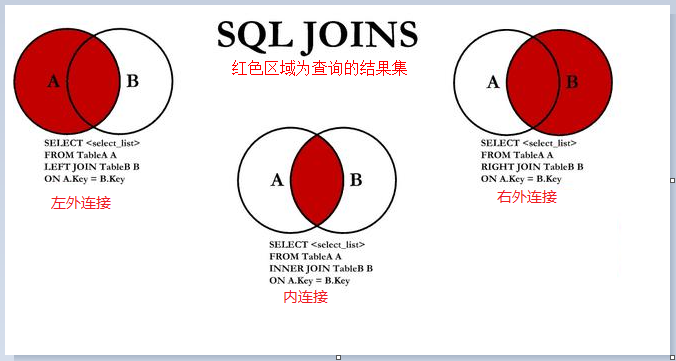
LEFT OUTER JOIN products p

ON c.cid = p.category\_id

GROUP BY cname;



下面通过一张图说明连接的区别:



## 子查询

子查询：一条select语句结果作为另一条select语法一部分（查询条件，查询结果，表等）。

select ....查询字段 ... from ... 表.. where ... 查询条件

#3 子查询, 查询“化妆品”分类上架商品详情

#隐式内连接

SELECT p.\* FROM products p , category c

WHERE p.category\_id=c.cid AND c.cname = '化妆品';

#子查询

##作为查询条件

SELECT \* FROM products p

WHERE p.category\_id =

(

SELECT c.cid FROM category c

WHERE c.cname='化妆品'

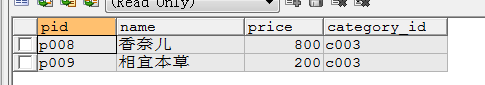
);

##作为另一张表

SELECT \* FROM products p ,

(SELECT \* FROM category WHERE cname='化妆品') c

WHERE p.category\_id = c.cid;



#查询“化妆品”和“家电”两个分类上架商品详情

SELECT \* FROM products p

WHERE p.category\_id in

(

SELECT c.cid FROM category c

WHERE c.cname='化妆品' or c.name='家电'

);