数据库实验报告

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1. 题目：建立图书馆数据库并运行脚本创建表，然后再由题进行一系列操作。
2. 进行一系列操作：
3. 删除所有关系中的所有元组：

DELETE

FROM member4;

DELETE

FROM title4;

DELETE

FROM book4;

1. 根据题目建立缺少的表：

CREATE TABLE purchase\_order4(

ponum char(8),

qty int,

orderdate date,

duedate date,

receiveddate date,

PRIMARY KEY (ponum));

CREATE TABLE supplier4(

supplier\_id char(6),

name char(20),

address char(20),

PRIMARY KEY (supplier\_id));

CREATE TABLE read\_by4(

callnumber char(8),

lib\_id char(6),

timesread int,

PRIMARY KEY (callnumber, lib\_id),

FOREIGN KEY (lib\_id) REFERENCES member4(libid),

FOREIGN KEY (callnumber) REFERENCES title4(callnumber));

CREATE TABLE order4(

callnumber char(8),

ponum char(8),

supplier\_id char(6),

PRIMARY KEY (callnumber, ponum, supplier\_id),

FOREIGN KEY (callnumber) REFERENCES title4(callnumber),

FOREIGN KEY (ponum) REFERENCES purchase\_order4(ponum),

FOREIGN KEY (supplier\_id) REFERENCES supplier4(supplier\_id));

1. 添加约束使ISBN和TITLE4中的名称不为空：

ALTER TABLE title4

ADD CONSTRAINT al\_key1 UNIQUE (isbn);

ALTER TABLE title4

ADD CONSTRAINT al\_key2 UNIQUE (name);

1. 在表MEMBER4中添加新的列join\_date和gender：

ALTER TABLE member4

ADD join\_date date;

ALTER TABLE member4

ADD gender char(2);

1. 在表READ\_BY4中的属性TimesRead不为负值：

ALTER TABLE read\_by4

ADD CONSTRAINT Counter CHECK (timesread >= 0);

1. 向表中添加数据：

INSERT INTO TITLE4 VALUES ('AB123456', '12345687', '1997/01/01', 'Discrete Maths', 'Shadow', 'Jones');

INSERT INTO TITLE4 VALUES ('CD456756', '45454598', '1996/01/01', 'Intro to CS', 'Kelvin', 'Smith');

INSERT INTO TITLE4 VALUES ('EF121221', 'A4245678', '1998/01/01', 'Intro to CE', 'Stella', 'Potter');

INSERT INTO MEMBER4 VALUES ('123423', 'Jessy', 'Owens', '35 Side Pgh 15255', '4126874534','2009-10-10','M');

INSERT INTO MEMBER4 VALUES ('A34565', 'Diana', 'Emily', '25 Side Pgh 15245', '4123456452','1997-11-29','F');

INSERT INTO BOOK4 VALUES ('Q76.98.1', 'first', 'good', 'A34565', '1997-10-10', 'AB123456');

INSERT INTO BOOK4 VALUES ('Q76.95.6', 'third', 'ok', '123423', '1998-06-06', 'EF121221');

INSERT INTO READ\_BY4 VALUES('AB123456','123423', 0);

INSERT INTO READ\_BY4 VALUES('CD456756', 'A34565', 1);

INSERT INTO READ\_BY4 VALUES('EF121221', '123423', 1);

INSERT INTO purchase\_order4 VALUES('00000001', 20, '2009-10-10', '2009-11-2','2009-11-22');

INSERT INTO purchase\_order4 VALUES('00000002', 20, '2009-10-10', '2009-11-2','2009-11-22');

INSERT INTO purchase\_order4 VALUES('00000003', 20, '2009-10-10', '2009-11-2','2009-11-22');

INSERT INTO supplier4 VALUES('000001', 'NWPU\_press','xian,shanxi');

INSERT INTO order4 VALUES('AB123456', '00000001', '000001');

INSERT INTO order4 VALUES('CD456756', '00000001', '000001');

INSERT INTO order4 VALUES('EF121221', '00000001', '000001');

1. 进行一系列查询：
2. select libid,fname as firstName,join\_date as joinAt

from member4

where join\_date<'1997-11-30'and libid like 'A\_\_\_\_\_'; 

1. select name,isbn,callnumber

from title4

where callnumber in(select callnumber

from order4, purchase\_order4

where order4.ponum = purchase\_order4.ponum

group by callnumber

having count(supplier\_id)>1and sum(qty)>10

order by sum(qty) desc);

1. select libid,fname

from MEMBER4

where libid in(select lib\_id

from read\_by4,TITLE4

where read\_by4.callnumber=TITLE4.callnumber

group by read\_by4.lib\_id

having count(read\_by4.lib\_id)<0.05\*count(TITLE4.isbn));