

【Experiment name】 Database Experiment 6 - View

## Management

【Experimental content】

Data used in this experiment:

A101\_Student

	Sno	Sname	Ssex	Sage	Sdept
►	200215128	王红	女	19	MA
	201215121	李伟	男	21	CS
	201215122	刘晨	女	20	CS
	201215123	王芳	女	18	MA
	201215125	张立	男	19	IS
*	NULL	NULL	NULL	NULL	NULL

A101\_Course

	Cno	Cname	Cpno	Ccredit
►	1	数据库	5	4
	2	数学	NULL	2
	3	信息系统	1	4
	4	操作系统	6	3
	5	数据结构	7	4
	6	数据处理	NULL	2
	7	PASCAL语言	6	4
*	NULL	NULL	NULL	NULL

A101\_SC

	Sno	Cno	Grade
►	201215122	3	80
	201215121	2	85
	201215121	3	88
	201215122	2	90
	201215121	1	96
*	NULL	NULL	NULL

A101\_SS

	SNO	SNAME	STATUS	CITY
	S1	精益	20	天津
	S2	盛锡	10	北京
	S3	东方红	30	北京
	S4	丰泰盛	20	天津
	S5	为民	30	上海
▶*	NULL	NULL	NULL	NULL

A101\_PP

	PNO	PNAME	COLOR	WEIGHT
	P1	螺母	红	12
	P2	螺栓	绿	17
	P3	螺丝刀	蓝	14
	P4	螺丝刀	红	14
	P5	凸轮	蓝	40
	P6	齿轮	红	30
▶*	NULL	NULL	NULL	NULL

A101\_JJ

	JNO	JNAME	CITY
▶	J1	三建	北京
	J2	一汽	长春
	J3	弹簧厂	天津
	J4	造船厂	天津
	J5	机车厂	唐山
	J6	无线电厂	常州
	J7	半导体厂	南京
*	NULL	NULL	NULL

A101\_SPJ

	SNO	PNO	JNO	QTY
	S1	P1	J3	100
	S1	P2	J2	100
	S2	P5	J2	100
	S4	P5	J1	100
	S5	P2	J4	100
	S1	P1	J1	200
	S2	P3	J2	200
	S3	P1	J1	200
	S3	P3	J1	200
	S4	P6	J4	200
	S5	P3	J1	200
	S5	P6	J2	200
	S4	P6	J3	300
	S2	P3	J1	400
	S2	P3	J5	400
	S2	P5	J1	400
	S2	P3	J4	500
	S5	P6	J4	500
	S1	P1	J4	700
▶*	NULL	NULL	NULL	NULL

## Task one:

Please perform various view operations on the student course database:

1. Create CS-S, a view for computer students;
2. Create a CS-S1 view for female students in the Department of Computer Science;
3. Create a course view NP-C with no prerequisite courses (Cpno is NULL);
4. Create the student view CS-S2 of the Department of Computer Science taking No. 1 course;
5. Establish the student view CS-S3 of the computer department's elective database course;
6. Increase the age of girls in the Department of Computer Science by one year;
7. Modify the scores of CS-S3 middle school students (the scores are determined by themselves);
8. Delete each view defined above;

--Establish the view CS-S of computer department students;

```
CREATE VIEW CS_S
AS
SELECT Sno , Sname , Sage
FROM   A101_A101_Student __
WHERE  Sdept = 'CS' ;
```

```
--建立计算机系学生视图CS-S ;
CREATE VIEW CS_S
AS
SELECT Sno,Sname,Sage
FROM E11714076_Student
WHERE Sdept='CS';
```

消息  
命令已成功完成。

	Sno	Sname	Sage
▶	201215121	李伟	20
	201215122	刘晨	19
*	NULL	NULL	NULL

--Establish CS-S1 view of girls in computer department;

```
CREATE VIEW CS_S1
AS
SELECT Sno , Sname , Sage
FROM A101_Student_
WHERE Sdept = 'CS' AND SSex = 'Female';
```

```
--建立计算机系女生视图CS-S1 ;
CREATE VIEW CS_S1
AS
SELECT Sno,Sname,Sage
FROM E11714076_Student
WHERE Sdept= 'CS' AND SSex='女';
```

消息  
命令已成功完成。

	Sno	Sname	Sage
▶	201215122	刘晨	19
*	NULL	NULL	NULL

--Create a course view NP-C without prerequisite courses (Cpno is NULL);

```
CREATE VIEW NP_C
AS
SELECT Cno , Cname , Cpno , Ccredit
FROM A101_Course
WHERE Cpno is NULL;
```

```
--建立无先修课 (Cpno为NULL) 的课程视图NP-C;
CREATE VIEW NP_C
AS
SELECT Cno,Cname,Cpno,Ccredit
FROM E11714076_Course
WHERE Cpno is NULL;
```

消息  
命令已成功完成。

	Cno	Cname	Cpno	Ccredit
▶	2	数学	NULL	2
	6	数据处理	NULL	2
*	NULL	NULL	NULL	NULL

--Create the student view CS-S2 of the Department of Computer Science taking the No. 1 course;

```
CREATE VIEW CS_S2 ( Sno , Sname , Grade )
AS
SELECT A101_Student . Sno , Sname , Grade
FROM A101_Student , A101_SC __
WHERE Sdept = 'CS'
AND
A101_Student.Sno = A101_SC.Sno _____
AND
A101_SC . Cno = '1' ;
```

```
--建立计算机系选修1号课程的学生视图CS-S2 ;
CREATE VIEW CS_S2 (Sno,Sname,Grade)
AS
SELECT E11714076_Student.Sno,Sname,Grade
FROM E11714076_Student,E11714076_SC
WHERE Sdept= 'CS' AND
E11714076_Student.Sno=E11714076_SC.Sno AND
E11714076_SC.Cno= '1';
```

消息  
命令已成功完成。

	Sno	Sname	Grade
▶	201215121	李伟	92
*	NULL	NULL	NULL

--Establish the student view CS-S3 of the elective database course of the Department of Computer Science;

```
CREATE VIEW CS_S3 ( Sno , Sname , Grade )
AS
SELECT A101_Student . Sno , Sname , Grade
```

```

FROM A101_Student, A101_SC __
WHERE Sdept = 'CS'
AND
A101_Student.Sno = A101_SC.Sno _____
AND
Cno IN ( select Cno from A101_Course where Cname = 'Database' );

```

```

--建立计算机系选修数据库课程学生视图CS-S3 ;
CREATE VIEW CS_S3(Sno,Sname,Grade)
AS
SELECT E11714076_Student.Sno,Sname,Grade
FROM E11714076_Student,E11714076_SC
WHERE Sdept= 'CS'
AND
E11714076_Student.Sno=E11714076_SC.Sno
AND
Cno IN (select Cno from E11714076_Course where Cname='数据库');

```

消息  
命令已成功完成。

	Sno	Sname	Grade
▶	201215121	李伟	92
*	NULL	NULL	NULL

```

--Increase the age of girls in computer science department by one year;
update CS_S
set Sage = Sage + 1

```

```

--将计算机系女生的年龄增加一岁;
update CS_S
set Sage=Sage+1

```

消息

(2 行受影响)

```

--Modify the grades of students in CS-S3 middle school (the scores are determined by themselves);
update CS_S3
set Grade = Grade + 4

```

```

--对CS-S3中学生成绩进行修改（分数自己定）;
update CS_S3
set Grade=Grade+4

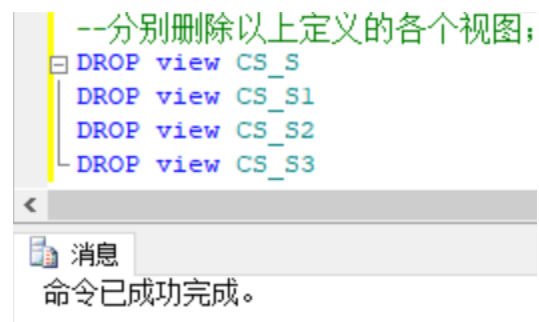
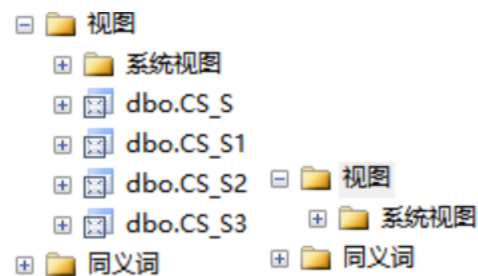
```

消息

(1 行受影响)

	Sno	Sname	Grade
▶	201215121	李伟	92
*	NULL	NULL	NULL

Delete each view defined above separately;



## Task two:

-- Establish Beijing supplier view BJ-S;

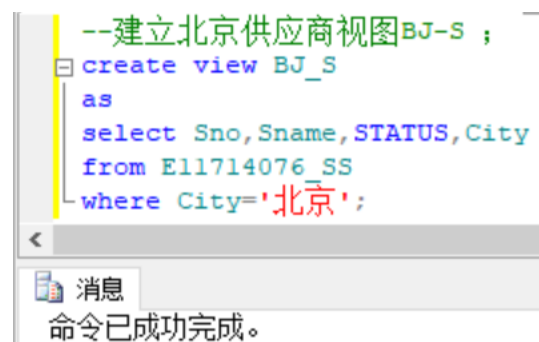
create view BJ\_S

as

select Sno , Sname , STATUS , City

from A101\_SS \_

where City = 'Beijing' ;



	Sno	Sname	STATUS	City
	S2	盛锡	10	北京
	S3	东方红	30	北京
▶*	NULL	NULL	NULL	NULL

```
--Establish Beijing engineering view BJ-J;
create view BJ_J
as
select Jno , Jname , City
from A101_JJ_
where City = 'Beijing' ;
```

```
--建立北京工程视图BJ-J ;
create view BJ_J
as
select Jno,Jname, City
from E11714076_JJ
where City='北京';
```

消息  
命令已成功完成。

	Jno	Jname	City
	J1	三建	北京
▶*	NULL	NULL	NULL

```
--Establish the supply situation view BJS-SPJ of Beijing suppliers;
create view BJS_SPJ
as
select A101_SS . Sno , Pno , Jno , Qty
from A101_SS , A101_SPJ_
where A101_SS . Sno = A101_SPJ . Sno
and
City = 'Beijing' ;
```

```
--建立北京供应商的供应情况视图BJS-SPJ;
create view BJS_SPJ
as
select E11714076_SS.Sno,Pno,Jno,Qty
from E11714076_SS,E11714076_SPJ
where E11714076_SS.Sno=E11714076_SPJ.Sno
and
City='北京';
```

消息  
命令已成功完成。



	Sno	Pno	Jno	Qty
	S2	P3	J1	400
	S2	P3	J2	200
	S2	P3	J4	500
	S2	P3	J5	400
	S2	P5	J1	400
	S2	P5	J2	100
	S3	P1	J1	200
	S3	P3	J1	200
※	NULL	NULL	NULL	NULL

--Establish the supply situation view BJSJ-SPJ of Beijing suppliers supplying Beijing projects;

create view BJSJ\_SPJ

as

select A101\_SPJ . Sno , Pno , A101\_SPJ . Jno , Qty

from A101\_SS , A101\_JJ , A101\_SPJ \_\_\_\_

where A101\_SS . Sno = A101\_SPJ . Sno

and A101\_JJ . Jno = A101\_SPJ . Jno

and A101\_SS . city = 'Beijing'

and A101\_JJ . city = 'Beijing' ;

```
--建立北京供应商供应北京工程的供应情况视图BJSJ-SPJ ;
create view BJSJ_SPJ
as
select E11714076_SPJ.Sno,Pno,E11714076_SPJ.Jno,Qty
from E11714076_SS,E11714076_JJ,E11714076_SPJ
where E11714076_SS.Sno=E11714076_SPJ.Sno
and E11714076_JJ.Jno=E11714076_SPJ.Jno
and E11714076_SS.city='北京'
and E11714076_JJ.city='北京';
```

消息  
命令已成功完成。

	Sno	Pno	Jno	Qty
	S2	P3	J1	400
	S2	P5	J1	400
	S3	P1	J1	200
	S3	P3	J1	200
※	NULL	NULL	NULL	NULL

--Establish the supply situation view WM-SPJ of "for the people" suppliers;

create view WM\_SPJ

as

select A101\_SPJ . Sno , Pno , Jno , Qty

from A101\_SS , A101\_SPJ \_\_

where Sname = 'for the people' and A101\_SS . Sno = A101\_SPJ . Sno

```
--建立“为民”供应商的供应情况视图WM-SPJ ;
create view WM_SPJ
as
select E11714076_SPJ.Sno,Pno,Jno,Qty
from E11714076_SS,E11714076_SPJ
where Sname='为民' and E11714076_SS.Sno=E11714076_SPJ.Sno
```

消息  
命令已成功完成。

	Sno	Pno	Jno	Qty
	S5	P2	J4	100
	S5	P3	J1	200
	S5	P6	J2	200
	S5	P6	J4	500
▶*	NULL	NULL	NULL	NULL

--Double the amount of supply from the "For the People" supplier;

update WM\_SPJ

set Qty = Qty \* 2

```
--将“为民”供应商的供应数量加倍;
update WM_SPJ
set Qty=Qty*2
```

消息  
(4 行受影响)

	Sno	Pno	Jno	Qty
	S5	P2	J4	200
	S5	P3	J1	400
	S5	P6	J2	400
	S5	P6	J4	1000
▶*	NULL	NULL	NULL	NULL

--Respectively delete each view defined above;

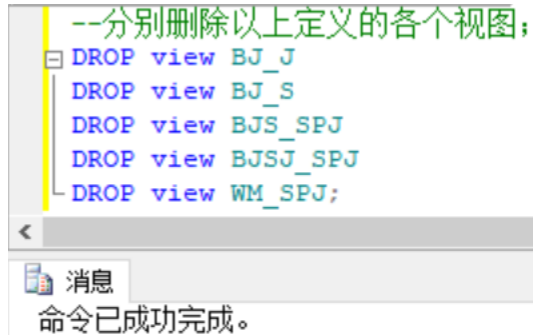
DROP view BJ\_J

DROP view BJ\_S

DROP view BJS\_SPJ

DROP view BJSJ\_SPJ

DROP view WM\_SPJ ;



## summary:

After trying and learning in this experimental class, I further learned and understood the operations of defining views, querying views, and updating views in view management. In particular, the specific experiments practice the specific methods of creating views, modifying views and modifying views.

In specific experiments, I also gradually realized the convenience of using view management, especially the view provides a certain degree of logical independence and security protection for refactoring the database.

Practice based on several different tables made me more familiar with the related operations of data update and enhanced my ability to use SQL database. After learning and training on SQL database experiments this semester, I am really familiar with and mastered the SQL database The basic usage methods provide good ideas and abilities for future work and study.