

【Experiment name】 Database Experiment 5 - Data Update

【Experimental content】

Data used in this experiment:

A101_Student

	Sno	Sname	Ssex	Sage	Sdept
	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 data updates for the student course database (some deletions need to be done step by step):

1. Add 10 points to the scores of all students whose scores are less than 60 points, and store the results in the database;
2. Insert a record ('200215128', 'Zhang Cheng', 'Male', 19, 'MA') into Student table 3 .;
4. Insert the course selection record of '200215128' elective course '1';
5. Add 1 year to the age of computer science students;
6. Modify the student information with the student number '200215128', change the name to 'Wang Hong', and change the gender to 'Female';
7. Delete the student information of the computer department and the information department (how to deal with the course selection information?);
8. Delete the course selection information of students who have taken the "database" course;
9. Count the average grades of all students' elective courses and save them in a table (create the table first);
10. Count the highest, lowest and average scores of all courses and save them in a table (create the table first)*.

--1. Add points to the scores of all students whose scores are less than 60 , and store the results in the database;

update A101_SC _

set Grade = Grade + 10

where Grade <

```
--1.将所有成绩小于60分的学生的成绩加分，并把结果存入数据库；
update E11714076_SC
set Grade=Grade+10
where Grade<60
```

消息

(0 行受影响)

60

--2. Insert a record ('', 'Zhang Cheng', 'Male', 'MA') into the A101_Student table;

insert

Into A101_Student

Values ('200215128', 'Zhang Cheng', 'Male', 19, 'MA');

```
SQLQuery2.sql - ...TV\THCMAZJ (51))*
--2.插入一条记录('', '张成', '男', , 'MA')到E11714076_Student表中;
Insert
Into E11714076_Student
Values ('200215128', '张成', '男', 19, 'MA');
```

消息

(1 行受影响)

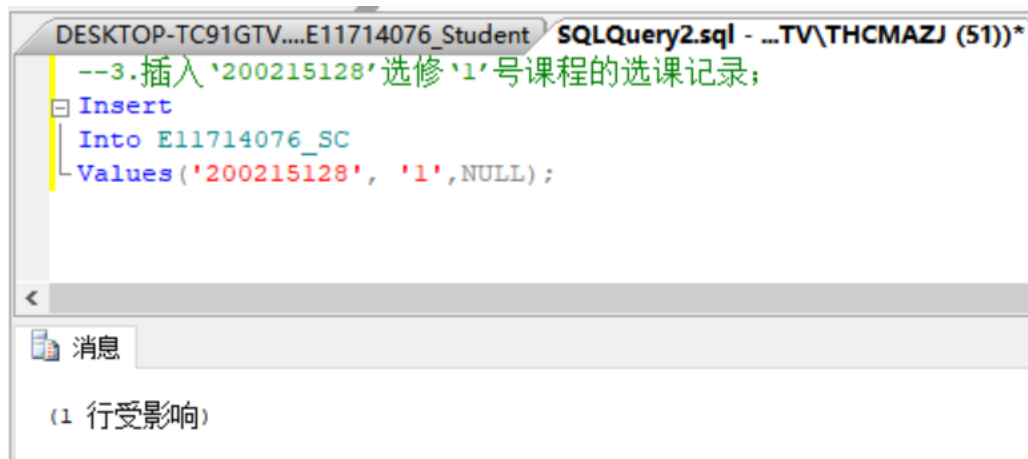
DESKTOP-TC91GTV....E11714076_Student						SQLQuery2.sql - ...TV\THCMAZJ (51))*					
	Sno	Sname	Ssex	Sage	Sdept						
▶	200215128	张成	男	19	MA						
	201215121	李伟	男	20	CS						
	201215122	刘晨	女	19	CS						
	201215123	王芳	女	18	MA						
	201215125	张立	男	19	IS						
*	NULL	NULL	NULL	NULL	NULL						

--3. Insert the course selection record of '200215128' elective course '1';

insert

Into A101_SC _

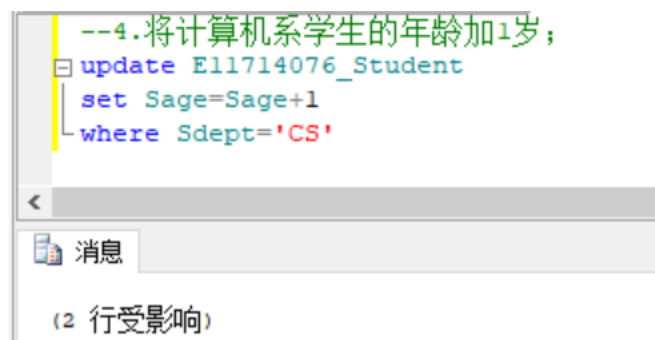
```
Values ( '200215128' ,  
'1',NULL);
```



	Sno	Cno	Grade
▶	200215128	1	NULL

--4. Add 1 year to the age of computer science students;

```
update A101_Student_  
set Sage = Sage + 1  
where Sdept = 'CS'
```



	201215121	李伟	男	20	CS
	201215122	刘晨	女	19	CS

--5. Modify the student information with the student number '200215128', change the name to 'Wang Hong', and change the gender to 'Female';

```
update A101_Student_  
set Sname = 'Wang Hong' , Ssex = 'female'
```

where Sno =

'200215128'

DESKTOP-TC91GTV....E11714076_Student SQLQuery2.sql - ...TV\THCMAZJ (51))*

```
--5.修改学号为 '200215128' 的学生信息, 将姓名改为 '王红', 性别改为 '女';  
update E11714076_Student  
set Sname='王红', Ssex='女'  
where Sno='200215128'
```

消息

(1 行受影响)

200215128	王红	女	19	MA
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--6. Delete the student information of the computer department and the information department (how to deal with the course selection information?);

delete

from A101_Student

where Sdept = 'CS' OR Sdept = 'IS'

SQLQuery2.sql - ...TV\THCMAZJ (51))*

```
--6.删除计算机系与信息系的学生信息(选课信息如何处理?);  
delete  
from E11714076_Student  
where Sdept='CS' OR Sdept='IS'
```

消息

(3 行受影响)

DESKTOP-TC91GTV....E11714076_Student		SQLQuery2.sql - ...TV\THCMAZJ (51))*			
	Sno	Sname	Ssex	Sage	Sdept
▶	1	1	1	1	NULL
	200215128	王红	女	19	MA
	201215123	王芳	女	18	MA
*	NULL	NULL	NULL	NULL	NULL

--7. Delete the course selection information of students who have taken the "database" course;

delete

from A101_SC_

where Cno in

(select Cno

from A101_Course

where Cname = 'database'

)

DESKTOP-TC91GTV....E11714076_Student SQLQuery2.sql - ...TV\THCMAZJ (51))*

```

where Cno in
(select Cno
 from E11714076_Course
 where Cname='数据库'
 )

```

消息

(2 行受影响)

DESKTOP-TC91GTV....E11714076_Course		DESKTOP-TC91GTV....E11714		
	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

--8. Count the average grades of all students' elective courses and save them in a table (build the table first);

CREATE table Savg_Grade

(Sno char (10) ,

avg_grade smallint);

insert

Into Savg_Grade (Sno , avg_grade) __

select Sno , AVG (Grade)

from A101_SC

group by Sno

DESKTOP-TC91GTV....E11714076_Course DESKTOP-T

```

CREATE Table Savg_Grade
(
  Sno char(10),
  avg_grade smallint);
Insert
Into Savg_Grade(Sno,avg_grade)
select Sno,AVG(Grade)
from E11714076_SC
group by Sno

```

消息

(2 行受影响)

DESKTOP-TC91GTV....- dbo.Savg_Grade		
	Sno	avg_grade
▶	200215128	90
	201215123	95
*	NULL	NULL

--9. Count the highest score, lowest score and average score of all courses, and save them in a table (build the table first)*.

```
create table S_Grade
( Cno char ( 10 ),
  Max Grade smallint ,
  Min Grade smallint ,
  AvgGrade smallint )
insert
Into S_Grade ( MaxGrade , MinGrade , AvgGrade )
select MAX ( Grade ) , MIN ( Grade ) , AVG ( Grade )
from A101_SC _
group by Cno
```

SQLQuery2.sql - ...TV\THCMAZJ (51))*

```
--9.统计所有课程的最高分、最低分和平均分，保存到一张表中（先建表）* 。
create table S_Grade
( Cno char (10) ,
  MaxGrade smallint ,
  MinGrade smallint ,
  AvgGrade smallint )
Insert
Into S_Grade (MaxGrade,MinGrade,AvgGrade)
select MAX (Grade) , MIN (Grade) , AVG (Grade)
from E11714076_SC
group by Cno
```

消息

(2 行受影响)

系统表
dbo.E11714076_Course
dbo.E11714076_SC
dbo.E11714076_Student
dbo.S_Grade
dbo.Savg_Grade

DESKTOP-TC91GTV...数据库 - dbo.S_Grade				
	Cno	MaxGrade	MinGrade	AvgGrade
▶	NULL	90	90	90
	NULL	95	95	95
*	NULL	NULL	NULL	NULL

Task two:

For the SPJ database, perform various data updates (some deletions need to be carried out step by step).

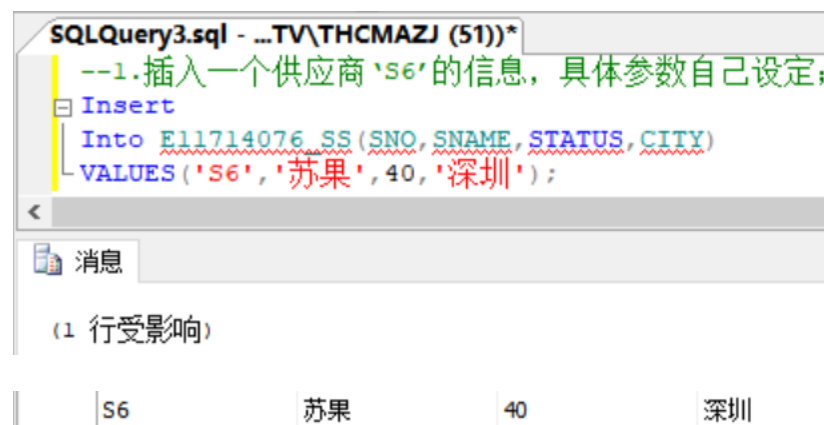
1. Insert the information of a supplier 'S6', and set the specific parameters by yourself;
2. Insert the information of a part 'P7', and set the specific parameters by yourself;
3. Insert the information of a project 'J8', and set the specific parameters by yourself;
4. Insert the information of 'S6' supply item 'J8' part P7, the supply quantity is 500;
5. Calculate the average supply quantity of various parts supplied by each supplier, and store the results in the database (build the table first)*;
6. Change all suppliers supplying project "J1" part "P2" to S1;
7. Modify the supply details of the supply greater than 100, and increase the supply by 100;
8. Reduce the maximum supply of J1 items to half of the original;
9. Delete the S6 supplier information (pay attention to referential integrity);
10. Delete the information of part 'P7';
11. Delete the information of project 'J8';
12. Delete all provisioning information for item 'J7';
13. Delete all supply information of "Dongfanghong" suppliers*;
14. Delete the supply information and engineering project information of the "screwdriver" parts supplied by the "Beijing" supplier*;

--1. Insert the information of a supplier 'S6', and set the specific parameters by yourself;

insert

Into A101_SS (SNO , SNAME , STATUS , CITY)

VALUES ('S6' , 'Suguo' , 40 , 'Shenzhen');



The screenshot shows a SQL query editor window titled "SQLQuery3.sql - ...TV\THCMAZJ (51))*". The query text is as follows:

```
--1.插入一个供应商'S6'的信息, 具体参数自己设定;  
Insert  
Into E11714076_SS (SNO, SNAME, STATUS, CITY)  
VALUES ( 'S6', '苏果', 40, '深圳' );
```

Below the query editor, there is a message box titled "消息" (Message) that says "(1 行受影响)" (1 row affected). At the bottom, there is a table with the following data:

S6	苏果	40	深圳
----	----	----	----

--2. Insert the information of a part 'P7', and set the specific parameters by yourself;

insert

Into A101_PP

VALUES ('P7' , 'Wrench' , 'White' , 20);

```
DESKTOP-TC91GTV....dbo.E11714076_SS SQLQuery3.sql - ...TV\T
--2.插入一个零件'P7'的信息,具体参数自己设定;
Insert
Into E11714076_PP
VALUES ('P7','扳手','白',20);
```

消息

(1 行受影响)

P7	扳手	白	20
----	----	---	----

--3. Insert the information of a project 'J8', and set the specific parameters by yourself;

insert

Into A101_JJ

VALUES ('J8','SAIC','Shanghai');

```
DESKTOP-TC91GTV....dbo.E11714076_PP DESKTOP-TC91GTV....d
--3.插入一个项目'J8'的信息,具体参数自己设定;
Insert
Into E11714076_JJ
VALUES ('J8','上汽','上海');
```

消息

(1 行受影响)

J8	上汽	上海
----	----	----

--4. Insert the information of 'S6' supply item 'J8' part P7, the supply quantity is;

insert

Into A101_SPJ

VALUES ('S6','P7','J8',500);

```
SQLQuery3.sql - ...TV\THCMAZJ (51))*
--4.插入'S6'供应项目'J8'零件P7的信息
Insert
Into E11714076_SPJ
VALUES ('S6','P7','J8',500);
```

消息

(1 行受影响)

S6	P7	J8	500
----	----	----	-----

--5. Calculate the average supply quantity of various parts supplied by each supplier, and store the results in the database (build the table first)*;

```
create table Qavg_qty
```

```
( Sno char ( 10 ),
```

```
  Pno char ( 10 ),
```

```
  Avg_qty smallint )
```

```
insert
```

```
Into Qavg_qty ( Sno , Pno , Avg_qty )
```

```
    select Sno , Pno , Avg ( qty )
```

```
    from A101_SPJ _
```

```
    group by Sno , Pno
```

--5. 计算各个供应商供应各种零件的平均供货量，并将结果存放在数据库中（先建表）*；

```
create table Qavg_qty
(Sno char(10),
 Pno char(10),
 Avg_qty smallint)
Insert
Into Qavg_qty(Sno,Pno,Avg_qty)
select Sno,Pno,Avg(qty)
from E11714076_SPJ
group by Sno,Pno
```

消息

(11 行受影响)

	Sno	Pno	Avg_qty
	S1	P1	333
	S1	P2	100
	S2	P3	375
	S2	P5	250
	S3	P1	200
	S3	P3	200
	S4	P5	100
	S4	P6	250
	S5	P2	200
	S5	P3	400
	S5	P6	700
▶*	NULL	NULL	NULL

--6. Change all suppliers supplying project "J1" part "P2" to S1;

```
update A101_SPJ
```

```
set Sno = 'S1'
```

```
where Jno = 'J1' AND Pno = 'P2'
```

```
DESKTOP-TC91GTV....dbo.E11714076_SPJ SQLQuery3.sql - ...TV\THCMAZJ (51))*
--6.将所有供应工程“J1”零件“P2”的供应商改为S1;
Update E11714076_SPJ
set Sno='S1'
where Jno='J1' AND Pno='P2'
```

消息

(0 行受影响)

--7. Modify the supply details that the supply is greater than, and increase the supply;

update A101_SPJ

set QTY = QTY + 100

where QTY >

```
DESKTOP-TC91GTV....dbo.E11714076_SPJ SQLQuery3.sql - ...TV\THCMAZJ (51))*
--7.修改供应量大于的供应详情，将供应量增加;
Update E11714076_SPJ
set QTY=QTY+100
where QTY>100
```

消息

(14 行受影响)