

中山大学数据科学与计算机学院

移动信息工程专业-数据库系统

本科生实验报告

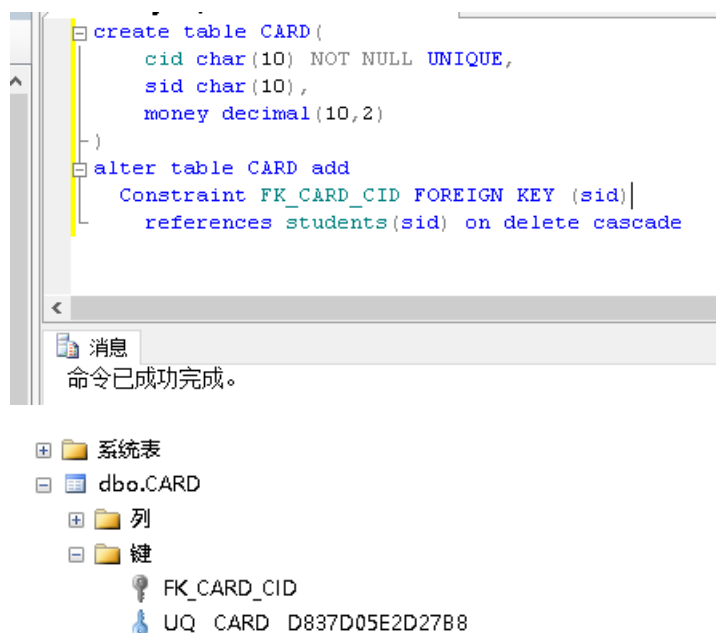
(2017-2018 学年秋季学期)

课程名称：数据库系统实验

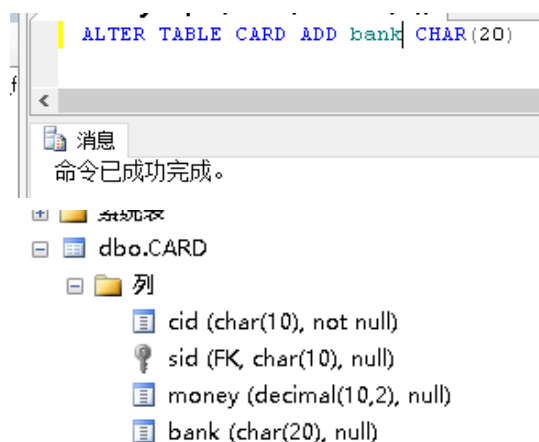
教学班级	15M1	专业（方向）	移动互联网
学号	15352408	姓名	张镓伟

一、 实验内容

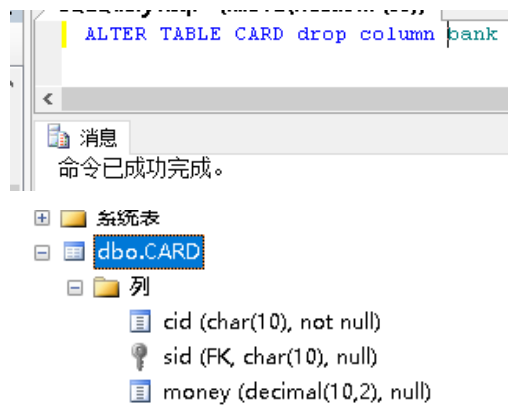
1.



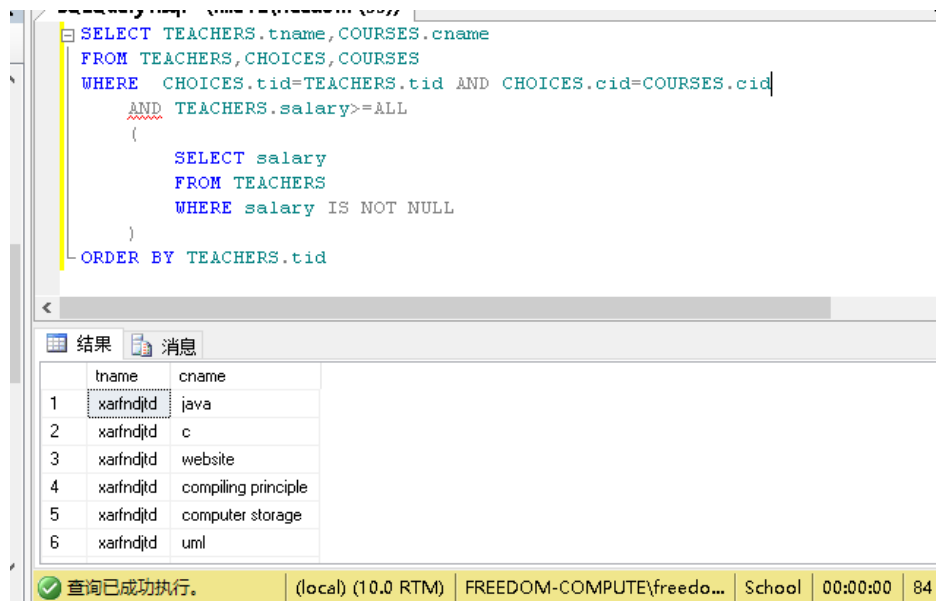
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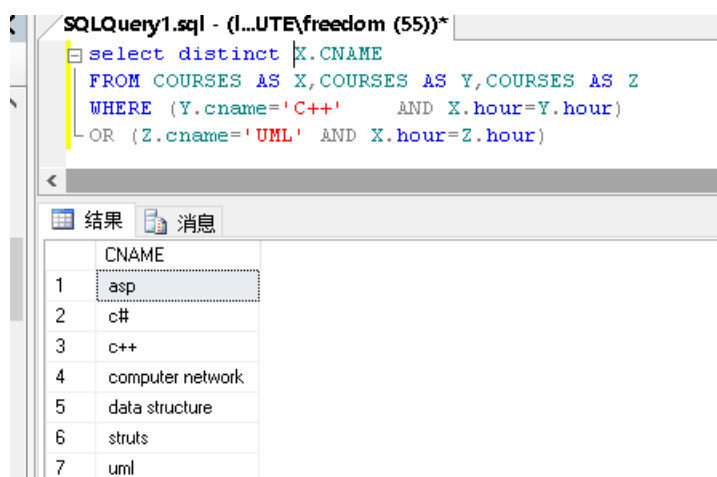
3.



4.



5.



6.

SQLQuery1.sql - (\\...UTE\\freedom (55))*

```

SELECT SID
FROM CHOICES
WHERE CHOICES.cid=
(
    SELECT COURSES.cid
    FROM COURSES
    WHERE COURSES.cname='C++'
)
EXCEPT
SELECT SID
FROM CHOICES
WHERE CHOICES.cid=
(
    SELECT COURSES.cid
    FROM COURSES
    WHERE COURSES.cname='database'
)

```

结果 消息

	SID
1	800042626
2	800047787
3	800406681
4	800962451
5	801817783

查询已成功执行。 (local) (10.0 RTM) FREEDOM-COMPUTE\\freedo... School 00:00:00 5596 行

7.

```

SELECT distinct STUDENTS.sid
FROM STUDENTS,CHOICES,COURSES
WHERE CHOICES.cid=COURSES.cid
AND STUDENTS.sid=CHOICES.sid
AND COURSES.cname='database'
AND CHOICES.score>ALL
(
    SELECT CHOICES.score
    FROM CHOICES,COURSES,STUDENTS
    WHERE CHOICES.cid=COURSES.cid
    AND CHOICES.sid=STUDENTS.sid
    AND STUDENTS.sname='ruvldjlm'
    AND COURSES.cname='database'
    AND CHOICES.score IS NOT NULL
)
ORDER BY STUDENTS.sid

```

结果 消息

	sid
1	800028649
2	800032383
3	800034166
4	800230908
5	800294531
6	800333311

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8.

```

select MAX(CHOICES.SCORE) as '最高成绩', AVG(CHOICES.SCORE) as '平均成绩'
from CHOICES, COURSES
where CHOICES.cid=COURSES.cid
AND COURSES.cname='database'

```

	最高成绩	平均成绩
1	99	75

9.

```

SELECT distinct STUDENTS.sname
FROM STUDENTS,CHOICES,COURSES
WHERE CHOICES.cid=COURSES.cid
AND STUDENTS.sid=CHOICES.sid
AND COURSES.cname='database'
AND CHOICES.score>=ALL
(
SELECT CHOICES.score
FROM CHOICES,COURSES,STUDENTS
WHERE CHOICES.cid=COURSES.cid
AND CHOICES.sid=STUDENTS.sid
AND COURSES.cname='database'
AND CHOICES.score IS NOT NULL
)

```

	sname
1	alkpzeuf
2	asvhw
3	awswkyi
4	bedsd
5	bhizsawm
6	brvuussuw
7	bqdstso
8	bttdhwsbq

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10.

```

SELECT |sname
FROM STUDENTS
WHERE sname NOT IN
(
SELECT STUDENTS.sname
FROM COURSES,STUDENTS,CHOICES
WHERE COURSES.cname='database'
AND COURSES.cid=CHOICES.cid
AND CHOICES.sid=STUDENTS.sid
)

```

	sname
1	rcxaihj
2	mztqvvc
3	wupposq
4	aogvyren
5	mcefir
6	rlmbgu
7	jkrdzdh
8	cypxi
9	ccvym
10	bfqul
11	pxtlidliw

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11.

```

SELECT sname
FROM CHOICES,STUDENTS
WHERE CHOICES.sid=STUDENTS.sid
GROUP BY STUDENTS.sid,sname
HAVING COUNT(CHOICES.NO)>2
  
```

	sname
1	vqxte
2	xaopipi
3	dhmqc
4	oqybbs
5	lquda

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12.

```

CREATE VIEW VIEW_SC
AS SELECT STUDENTS.sname,COURSES.cname,CHOICES.score
FROM CHOICES,STUDENTS,COURSES
WHERE CHOICES.sid=STUDENTS.sid AND CHOICES.cid=COURSES.cid
GO
SELECT *FROM VIEW_SC
  
```

	sname	cname	score
1	voamjw	internet	72
2	latclanps	computer storage	NULL
3	rimloab	use case	67
4	obivrkfr	comailna princi...	88

查询已成功执行。 (local) (10.0 RTM) FREEDOM-COMPUTE\freedo... School 00:00:01 299550 行

13.

```

SELECT sname
FROM VIEW_SC
WHERE score > 90
  
```

	sname
1	bdmwroobd
2	cwmyvsasn
3	yuhonffj
4	kwtqp
5	kwtqp
6	zrzdartwv

查询已成功执行。 (local) (10.0 RTM) FREEDOM-COMPUTE\freedo... School 00:00:00 53970 行

14.

答：不可以对 VIEW_SC 插入新数据。因为这是多表引用的视图，插入新数据会影响多个表，所以不可以插入新数据。

15.

```

create rule R1 as @value>0
go
exec sp_bindrule R1, "CARD.[money]"
  
```

已将规则绑定到表的列。

16.

```
SQLQuery1.sql - (L...UTE\freedom (55))*
Insert into CARD(cid, sid, money)
Values('1', '800001216', -1.0)
```

消息
消息 513, 级别 16, 状态 0, 第 1 行
列的插入或更新与先前的 CREATE RULE 语句所指定的规则发生冲突。该语句已终止。
语句已终止。

17.

```
SQLQuery1.sql - (L...UTE\freedom (55))*
exec sp_unbindrule 'CARD.[money]'
```

消息
已解除了表列与规则之间的绑定。

18.

```
create trigger T1 on STUDENTS
for delete as
if (select sid from deleted)='800015960'
begin
print '不能删除编号是800015960的记录'
Rollback transaction
end
```

消息
命令已成功完成。

19.

需要先删除 CHOICES 中的记录，不然会因为外键冲突而终止，而不是因为触发器而终止

```
delete from CHOICES
where sid='800015960'
delete from STUDENTS
where sid='800015960'
```

消息
(1 行受影响)
不能删除编号是800015960的记录
消息 3609, 级别 16, 状态 1, 第 3 行
事务在触发器中结束。批处理已中止。

20、先查询一个 students 表记录，准备对下面这个记录修改

```
select * from students
```

	sid	sname	email	grade
1	800001216	gfoxrgs	hhce4@qhldj.gov	1992

再查询一个 course 记录，准备插入一个跟下面这条记录冲突的新纪录以造成事务失败

select * from COURSES			
结果 消息			
	cid	cname	hour
1	10001	database	96

演示:

<pre> set XACT_ABORT ON begin tran update_stu update students set sname='haha' where sid='800001216' begin tran insert_courses insert into COURSES values('10001','database2',96) commit tran insert_courses commit tran update_stu </pre>			
消息			

(1 行受影响)

消息 2627, 级别 14, 状态 1, 第 7 行

违反了 PRIMARY KEY 约束 'PK_COURSES'。不能在对象 'dbo.COURSES' 中插入重复键。

重新查询 students 表记录发现该记录没有被更改, 说明事务回滚了

SQLQuery1.sql - (1...UTE\freedom (55))				
select * from STUDENTS				
结果 消息				
	sid	sname	email	grade
1	800001216	gfxrgs	hhce4@qhldj.gov	1992
2	800002933	vnbqzsvv	pvhxd4k@zqur.org	2002
3	800005753	waqcj	hlhq0h8@jdba.gov	1992
4	800006682	filluommh	ihzd6_k@kzvft.gov	1992