19335262 张航悦 实验 4

练习1

查询选修C++课程的成绩比姓名为 ZNKOO的学生高的所有学生的编号和姓名

```
1  select STUDENTS.sid,STUDENTS.sname
2  from STUDENTS,CHOICES,COURSES
3  where CHOICES.cid=COURSES.cid and COURSES.cname='C++'
4  and CHOICES.sid=STUDENTS.sid
5  and CHOICES.score>
6  (
7  select CHOICES.score
8  from CHOICES,STUDENTS,COURSES
9  where CHOICES.sid=STUDENTS.sid and STUDENTS.sname='ZNKOO'
10  and CHOICES.cid=COURSES.cid and COURSES.cname='C++')
```

	sid	sname
1	805448160	zppvomyah
2	806094323	vtvhjh
3	806368568	jrwpw
4	806508691	xeirvo
5	806890345	ooqjps
6	835124969	rleeibwu
7	835824895	pjrbr
8	836116925	eusitmsws
9	868653453	whjzeaqhh
10	868749608	depbudf
11	869063316	olsvi
12	870256988	dlmjlnuw
13	803470104	xqokicu
14	838799307	vdevl
15	839052279	kloriodw
16	839269508	npyciwsbl
17	839440207	zmiqdj

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练习2

找出和学生883794999或学生850955252的年级一样的学生的姓名
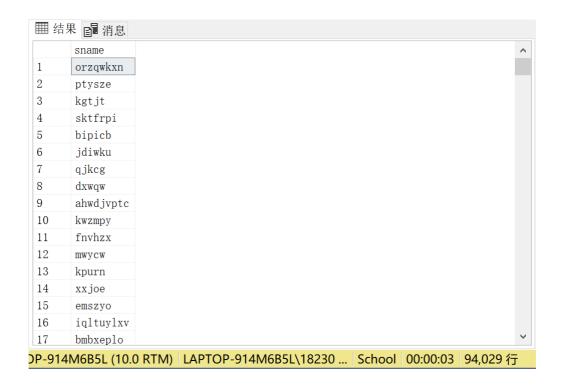
```
1  select sname
2  from STUDENTS
3  where grade in(
4  select grade
5  from STUDENTS
6  where sid='883794999' or sid='850955252')
```

	sname
1	uxqqbkjn
2	hvylafcj
3	vocojjnml
4	ztozk
5	efmgfprz
6	pgmrkdhh
7	ttyyb
8	mcefjr
9	rlmbgu
10	nkdnfq
11	grnxesrhv
12	fbbiyeh
13	qtxblqzsv
14	ctvxn
15	airnnfv
16	vaesalave
17	uiuirl

结果   消息

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练习3

> 查询没有选修Java的学生名称

```
1  select distinct sname
2  from STUDENTS
3  where sid not in
4  (select STUDENTS.sid
5  from COURSES,CHOICES,STUDENTS
6  where COURSES.cname='Java' and COURSES.cid=CHOICES.cid and
   STUDENTS.sid=CHOICES.sid)
```

	sname
1	orzqwkxn
2	ptysze
3	kgtjt
4	sktfrpi
5	bipicb
6	jdiwku
7	qjkcg
8	dxwqw
9	ahwdjvptc
10	kwzmpy
11	fnvhzx
12	mwycw
13	kpurn
14	xxjoe
15	emszyo
16	iqltuylxv
17	bmbxeplo

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练习4

> 找出课时最少的课程的详细信息;

```
1  select *
2  from COURSES
3  where hour<=all(
4  select hour
5  from COURSES)
```

	cid	cname	hour
1	10024	use case	18
2	10034	windows	18

练习5

> 查询工资最高的教师的编号和开设的课程号

```
1  select TEACHERS.tid,CHOICES.cid
2  from TEACHERS,CHOICES
3  where TEACHERS.tid=CHOICES.tid
4  and TEACHERS.salary>=all
5  (select salary
6  from TEACHERS
7  where salary is not null)
```

实验6

找出选修课程ERP成绩最高的学生编号

```sql
select CHOICES.sid
from CHOICES,COURSES
where COURSES.cid=CHOICES.cid and COURSES.cname='ERP' and score
is not null and score>=
all(
select CHOICES.score
from CHOICES,COURSES
where COURSES.cid=CHOICES.cid and COURSES.cname='ERP'
and score is not null)

```
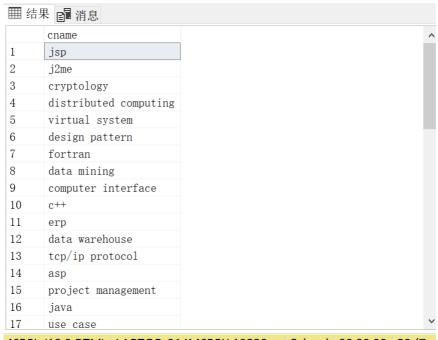
实验7

> 查询没有学生选修的课程名称

```
1  select cname
2  from COURSES
3  where cid not in
4  (select cid
5  from CHOICES)
```

结果	消息
cname	

实验8

> 查询讲授课程UML的教师所讲授的所有课程名称

```
1  select distinct COURSES.cname
2  from COURSES,CHOICES,TEACHERS
3  where TEACHERS.tid in
4  (select TEACHERS.tid
5  from TEACHERS,COURSES,CHOICES
6  where TEACHERS.tid=CHOICES.tid and CHOICES.cid=COURSES.cid
7  and COURSES.cname='UML')
8  and TEACHERS.tid=CHOICES.tid and CHOICES.cid=COURSES.cid
```

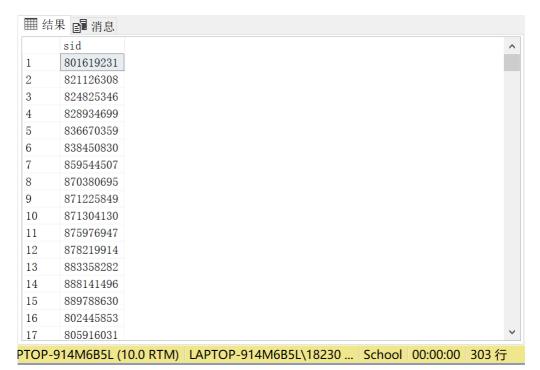|	cname
1	jsp
2	j2me
3	cryptology
4	distributed computing
5	virtual system
6	design pattern
7	fortran
8	data mining
9	computer interface
10	c++
11	erp
12	data warehouse
13	tcp/ip protocol
14	asp
15	project management
16	java
17	use case

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实验9

> 使用集合交运算，查询既选修了database又选修了UML课程的学生编号

```
1  select sid
2  from CHOICES
3  where cid=
4  (select cid
5  from COURSES
6  where COURSES.cname='database')
7  intersect
8  select sid
9  from CHOICES
10 where cid=
11 (select cid
12 from COURSES
13 where COURSES.cname='UML')
```

	sid
1	801619231
2	821126308
3	824825346
4	828934699
5	836670359
6	838450830
7	859544507
8	870380695
9	871225849
10	871304130
11	875976947
12	878219914
13	883358282
14	888141496
15	889788630
16	802445853
17	805916031

结果 消息

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实验10

> 使用集合减运算，查询选修了database却没有选修UML课程的学生编号

```sql
select sid
from CHOICES
where cid=
(select cid
from COURSES
where COURSES.cname='database')
except
select sid
from CHOICES
where cid=
(select cid
from COURSES
where COURSES.cname='UML')
```