

# 数据库系统及应用第三次作业

PB17151767 焦培淇

## 1.1

```
SELECT Student.sno, Student.sname FROM Student, Course, SC WHERE
Student.sno=SC.sno and Course.cno=SC.cno and SC.score IS NULL and
Course.type=0;
```

## 1.2

```
(SELECT sname FROM Student WHERE sno IN (SELECT DISTINCT SC.sno FROM
Course, SC WHERE Course.cno=SC.cno and Course.type=1 GROUP BY SC.sno
HAVING sum(Course.credit) > 16))
```

INTERSECTS

```
(SELECT sname FROM Student WHERE sno IN (SELECT DISTINCT SC.sno FROM
Course, SC WHERE Course.cno=SC.cno and Course.type=2 GROUP BY SC.sno
HAVING min(SC.score) > 75));
```

## 1.3

SET row\_num=0; (定义行号变量)

```
SELECT student.sno, student.name, top_student.avg_score,
top_student.overall_score FROM (SELECT row_order.sno, avg(SC.score) as
avg_score, row_order.overall_score
```

FROM

```
(SELECT sno, sum(score) as overall_score, row_num=row_num+1 as row_num
FROM SC GROUP BY sno ORDER BY overall_score DESC) row_order, SC,
```

Course

WHERE

```
row_order.sno=SC.sno and course.cno=SC.cno and row_order.row_num <=
(row_num*0.5) and course.type=0 ORDER BY avg_score GROUP BY
row_order.sno DESC LIMIT 10) top_student, Student WHERE
student.sno=top_student.sno;
```

1.4

```
(SELECT course.name,course.type,av_s.avg_score,pass_rate.rate FROM (SELECT
c.cno,avg(SC.score) as avg_score FROM SC,Course WHERE course.cno=SC.cno
GROUP BY course.cno) av_s,(SELECT all.cno,not_pass.bellow/all.all_score as rate
FROM (SELECT cno, count(*) as bellow FROM SC WHERE score < 60 GROUP BY
cno) not_pass,(SELECT cno, count(*) as all_score FROM SC GROUP BY cno) all
WHERE all.cno=not_pass.cno) pass_rate,Course WHERE course.cno=av_s.cno
and course.cno=pass_rate.cno and course.type=2)
```

UNION

```
(SELECT course.name,course.type,av_s.avg_score,pass_rate.rate FROM (SELECT
c.cno,avg(SC.score) as avg_score FROM SC,Course WHERE course.cno=SC.cno
GROUP BY course.cno) av_s,(SELECT all.cno,not_pass.bellow/all.all_score as rate
FROM (SELECT cno, count(*) as bellow FROM SC WHERE score < 60 GROUP BY
cno) not_pass,(SELECT cno, count(*) as all_score FROM SC GROUP BY cno) all
WHERE all.cno=not_pass.cno) pass_rate,Course WHERE course.cno=av_s.cno
and course.cno=pass_rate.cno and course.type<>2 ORDER BY course.type);
```

1.5

```
DELETE FROM SC WHERE concat(sno,cno,term) NOT IN (SELECT  
concat(sno,cno,max(term)) FROM SC GROUP BY sno,cno);
```