**案例4**

基于设计和学员表,老师表,课程表以及中间表的数据,完成相关查询

-- 1、查询平均成绩大于70分的同学的学号和平均成绩

-- 2、查询所有同学的学号、姓名、选课数、总成绩

-- 3、查询学过赵云老师所教课的同学的学号、姓名

-- 4、查询没学过关羽老师课的同学的学号、姓名

-- 5、查询没有学三门课以上的同学的学号、姓名

-- 6、查询各科成绩最高和最低的分

答案:

-- 1、查询所有同学的学号、姓名、选课数、总成绩

-- 1.1从学生课程中间表 查询学号，课程id,成绩

select student\_id,course\_id,score from studentcourse;

-- 1.2 根据学号分组 求出每个学生的选课数和总成绩

select student\_id,count(course\_id),sum(score) from studentcourse

group by student\_id;

-- 1.3 将1.2作为临时表 和 学生表 关联查询

select student.id,student.name,temp.countCourse,temp.sumScore

from student, (select student\_id,count(course\_id) countCourse,sum(score) sumScore from studentcourse

group by student\_id) temp

where student.id=temp.student\_id;

-- 2、查询学过赵云老师所教课的同学的学号、姓名

-- 2.1 查询赵云老师教了那些课

select course.id from teacher,course

where teacher.id=course.teacher\_id

and teacher.name='赵云';

-- 2.2 查询那些学生上了赵云老师的课

select student\_id from studentcourse

where course\_id in (select course.id from teacher,course

where teacher.id=course.teacher\_id

and teacher.name='赵云');

--2.3 根据学号查询学生信息

select id, name from student

where id in (select student\_id from studentcourse

where course\_id in (select course.id from teacher,course

where teacher.id=course.teacher\_id

and teacher.name='赵云'));

-- 3、查询没学过关羽老师课的同学的学号、姓名

-- 3.1 找到关羽的id

select id from teacher where name='关羽';

-- 3.2 查询关羽教授的课程

select id from course

where teacher\_id=(select id from teacher where name='关羽');

-- 3.3 查询那些学生上了关羽老师的课程

select distinct student\_id from studentcourse

where course\_id in (select id from course

where teacher\_id=(select id from teacher where name='关羽'));

-- 3.4 反向查询学号和姓名

select id,name from student

where id not in (select student\_id from studentcourse

where course\_id in (select id from course

where teacher\_id=(select id from teacher where name='关羽'))

);

-- 4、查询没有学三门课以上的同学的学号、姓名

--4.1 查询每个学生学了几门课

select student\_id, count(course\_id) from studentcourse

group by student\_id

;

-- 4.2 查询每个学生学了几门课 条件1：小于等于三门

select student\_id, count(course\_id) from studentcourse

group by student\_id

having count(course\_id)<=3

;

-- 4.3 查询 学号和姓名， 将4.2 作为临时表

select id,name from student, (select student\_id, count(course\_id) from studentcourse

group by student\_id

having count(course\_id)<=3) temp

where student.id=temp.student\_id;