--1.学生表  
Student(S,Sname,Sage,Ssex) --S 学生编号,Sname 学生姓名,Sage 出生年月,Ssex 学生性别  
--2.课程表   
Course(C,Cname,T) --C --课程编号,Cname 课程名称,T 教师编号  
--3.教师表   
Teacher(T,Tname) --T 教师编号,Tname 教师姓名  
--4.成绩表   
SC(S,C,score) --S 学生编号,C 课程编号,score 分数  
\*/  
--创建测试数据  
create table Student(S varchar(10),Sname varchar(10),Sage datetime,Ssex nvarchar(10))  
insert into Student values('01' , '赵雷' , '1990-01-01' , '男')  
insert into Student values('02' , '钱电' , '1990-12-21' , '男')  
insert into Student values('03' , '孙风' , '1990-05-20' , '男')  
insert into Student values('04' , '李云' , '1990-08-06' , '男')  
insert into Student values('05' , '周梅' , '1991-12-01' , '女')  
insert into Student values('06' , '吴兰' , '1992-03-01' , '女')  
insert into Student values('07' , '郑竹' , '1989-07-01' , '女')  
insert into Student values('08' , '王菊' , '1990-01-20' , '女')  
create table Course(C varchar(10),Cname,varchar(10),T varchar(10))  
insert into Course values('01' , '语文' , '02')  
insert into Course values('02' , '数学' , '01')  
insert into Course values('03' , '英语' , '03')  
create table Teacher(T varchar(10),Tname,varchar(10))  
insert into Teacher values('01' , '张三')  
insert into Teacher values('02' , '李四')  
insert into Teacher values('03' , '王五')  
create table SC(S varchar(10),C varchar(10),score decimal(18,1))  
insert into SC values('01' , '01' , 80)  
insert into SC values('01' , '02' , 90)  
insert into SC values('01' , '03' , 99)  
insert into SC values('02' , '01' , 70)  
insert into SC values('02' , '02' , 60)  
insert into SC values('02' , '03' , 80)  
insert into SC values('03' , '01' , 80)  
insert into SC values('03' , '02' , 80)  
insert into SC values('03' , '03' , 80)  
insert into SC values('04' , '01' , 50)  
insert into SC values('04' , '02' , 30)  
insert into SC values('04' , '03' , 20)  
insert into SC values('05' , '01' , 76)  
insert into SC values('05' , '02' , 87)  
insert into SC values('06' , '01' , 31)  
insert into SC values('06' , '03' , 34)  
insert into SC values('07' , '02' , 89)  
insert into SC values('07' , '03' , 98)

mysql...  
--1、查询"01"课程比"02"课程成绩高的学生的信息及课程分数

SELECT a.\*,b.score AS'01分数',c.score AS '02分数'

FROM student a

INNER JOIN sc b

ON a.s=b.s AND b.c='01'

INNER JOIN sc c

ON a.s=c.s AND c.c='02'

WHERE b.score>c.score  
--2、查询"01"课程比"02"课程成绩低的学生的信息及课程分数  
--3、查询平均成绩大于等于60分的同学的学生编号和学生姓名和平均成绩

SELECT a.s

,a.sname

,AVG(b.score) AS avgnum

FROM student a

INNER JOIN sc b

ON a.s=b.s

GROUP BY a.s

,a.sname

HAVING AVG(b.score)>60  
--4、查询平均成绩小于60分的同学的学生编号和学生姓名和平均成绩  
--5、查询所有同学的学生编号、学生姓名、选课总数、所有课程的总成绩

SELECT a.s

,a.sname

,COUNT(b.c)

,SUM(b.score)

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2  
--6、查询"李"姓老师的数量

SELECT COUNT(1) FROM teacher WHERE tname LIKE '李%'  
--7、查询学过"张三"老师授课的同学的信息

SELECT a.\*

FROM student a

INNER JOIN sc b

ON a.s=b.s

INNER JOIN course c

ON b.c=c.c

INNER JOIN teacher d

ON c.t=d.t

WHERE d.tname='张三'

GROUP BY 1,2,3,4

--方法2

SELECT a.\*

FROM student a

LEFT JOIN (

SELECT a.\*

FROM student a

INNER JOIN sc b

ON a.s=b.s

INNER JOIN course c

ON b.c=c.c

INNER JOIN teacher d

ON c.t=d.t

WHERE d.tname='张三'

GROUP BY 1,2,3,4

)b

ON a.s=b.s

WHERE b.s IS NULL

--8、查询没学过"张三"老师授课的同学的信息

SELECT a.\*

FROM student a

LEFT JOIN sc b

ON a.s=b.s

WHERE NOT EXISTS(

SELECT \*

FROM course aa

INNER JOIN teacher b

ON aa.t=b.t

INNER JOIN sc c

ON aa.c=c.c

WHERE b.tname='张三'

AND c.s=a.s

)

GROUP BY 1,2,3,4  
--9、查询学过编号为"01"并且也学过编号为"02"的课程的同学的信息

SELECT a.\*

FROM student a

INNER JOIN sc b

ON a.s=b.s AND b.c='01'

INNER JOIN sc c

ON a.s=c.s AND c.c='02'  
--10、查询学过编号为"01"但是没有学过编号为"02"的课程的同学的信息

select \*

from student a

left join sc b

on a.s=b.s and b.c='01'

left join sc c

on a.s=c.s and c.c='02'

where b.c='01' and c.c is null  
--11、查询没有学全所有课程的同学的信息

SELECT a.\*

FROM student a

LEFT JOIN sc b

ON a.s=b.s

LEFT JOIN (SELECT COUNT(1) anum FROM course) c

ON 1=1

GROUP BY 1,2,3,4

HAVING MAX(c.anum)>COUNT(b.c)  
--12、查询至少有一门课与学号为"01"的同学所学相同的同学的信息

SELECT a.\*

FROM student a

INNER JOIN sc b

ON a.s=b.s

WHERE EXISTS(

SELECT 1 FROM sc WHERE s='01' AND c=b.c

)

GROUP BY 1,2,3,4  
--13、查询和"01"号的同学学习的课程完全相同的其他同学的信息

SELECT a.s,a.sname,a.sage,a.ssex

FROM (SELECT a.\*,COUNT(b.c) AS snum

FROM student a

INNER JOIN sc b

ON a.s=b.s

WHERE EXISTS(

SELECT 1 FROM sc WHERE s='01' AND c=b.c

)

GROUP BY 1,2,3,4)a

INNER JOIN (SELECT a.\*,COUNT(b.c) AS anum

FROM student a

INNER JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4)b

ON a.s=b.s

INNER JOIN (SELECT COUNT(1) AS num1 FROM sc WHERE s='01')c

ON 1=1

WHERE a.snum=b.anum AND a.snum=c.num1

--方法二

SELECT a.\*

,COUNT(b.c) AS anum

,SUM(CASE WHEN EXISTS(SELECT 1 FROM sc WHERE s='01' AND c=b.c) THEN 1 ELSE 0 END) AS snum

,MAX(c.num1) AS num1

FROM student a

INNER JOIN sc b

ON a.s=b.s

INNER JOIN (SELECT COUNT(1) AS num1 FROM sc WHERE s='01')c

ON 1=1

GROUP BY 1,2,3,4

HAVING anum=snum AND anum=num1  
--14、查询没学过"张三"老师讲授的任一门课程的学生姓名

SELECT a.\*

FROM student a

LEFT JOIN(

SELECT a.s

FROM student a

LEFT JOIN sc b

ON a.s=b.s

LEFT JOIN course c

ON b.c=c.c

LEFT JOIN teacher d

ON c.t=d.t AND d.tname='张三'

WHERE d.t IS NOT NULL

)b

ON a.s=b.s

WHERE b.s IS NULL  
--15、查询两门及其以上不及格课程的同学的学号，姓名及其平均成绩

SELECT a.s

,a.sname

,AVG(b.score)

FROM student a

INNER JOIN sc b

ON a.s=b.s

GROUP BY 1,2

HAVING SUM(CASE WHEN b.score>=60 THEN 0 ELSE 1 END)>=2  
--16、检索"01"课程分数小于60，按分数降序排列的学生信息

SELECT a.\*

,b.score

FROM student a

INNER JOIN sc b

ON a.s=b.s

WHERE

b.c='01'

AND b.score<60

ORDER BY b.score DESC  
--17、按平均成绩从高到低显示所有学生的所有课程的成绩以及平均成绩

SELECT a.\*

,SUM(CASE WHEN b.c='01' THEN b.score ELSE 0 END) AS s01

,SUM(CASE WHEN b.c='02' THEN b.score ELSE 0 END) AS s02

,SUM(CASE WHEN b.c='03' THEN b.score ELSE 0 END) AS s03

,AVG(CASE WHEN b.score IS NULL THEN 0 ELSE b.score END) avs

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4

ORDER BY avs DESC  
--18、查询各科成绩最高分、最低分和平均分：以如下形式显示：课程ID，课程name，最高分，最低分，平均分，及格率，中等率，优良率，优秀率  
--及格为>=60，中等为：70-80，优良为：80-90，优秀为：>=90

SELECT a.c

,a.cname

,MAX(b.score)

,MIN(b.score)

,AVG(b.score)

,SUM(CASE WHEN b.score>=60 THEN 1 ELSE 0 END)/COUNT(1)

,SUM(CASE WHEN b.score>=70 AND b.score<80 THEN 1 ELSE 0 END)/COUNT(1)

,SUM(CASE WHEN b.score>=80 AND b.score<90 THEN 1 ELSE 0 END)/COUNT(1)

,SUM(CASE WHEN b.score>=90 THEN 1 ELSE 0 END)/COUNT(1)

FROM course a

INNER JOIN sc b

ON a.c=b.c

GROUP BY 1,2  
--19、按各科成绩进行排序，并显示排名

SET @rn:=0;

SELECT a.\*,@rn:=@rn+1

FROM(

SELECT a.\*,b.score

FROM course a

INNER JOIN sc b

ON a.c=b.c

WHERE a.c='01'

ORDER BY b.c,score DESC

)a  
--20、查询学生的总成绩并进行排名

SELECT a.\*

,COUNT(b.c)+1 asall

FROM sc a

LEFT JOIN sc b

ON a.c=b.c AND a.score<b.score

GROUP BY 1,2,3

ORDER BY a.c,asall  
--21、查询不同老师所教不同课程平均分从高到低显示

SELECT a.\*

,b.cname

,AVG(c.score) ascore

FROM teacher a

INNER JOIN course b

ON a.t=b.t

INNER JOIN sc c

ON b.c=c.c

GROUP BY 1,2,3

ORDER BY ascore DESC  
--22、查询所有课程的成绩第2名到第3名的学生信息及该课程成绩

SELECT a.\*,b.cname,b.score

FROM student a

INNER JOIN (

SELECT a.\*

,c.cname

,COUNT(b.c)+1 AS tp

FROM sc a

LEFT JOIN sc b

ON a.c=b.c AND a.score<b.score

LEFT JOIN course c

ON a.c=c.c

GROUP BY 1,2,3,4

HAVING COUNT(b.c)+1 IN(2,3)

ORDER BY a.c,tp)b

ON a.s=b.s  
--23、统计各科成绩各分数段人数：课程编号,课程名称,[100-85],[85-70],[70-60],[0-60]及所占百分比

SELECT a.c

,a.cname

,SUM(CASE WHEN b.score<=100 AND b.score>85 THEN 1 ELSE 0 END) AS '[100-85]'

,SUM(CASE WHEN b.score<=85 AND b.score>70 THEN 1 ELSE 0 END) AS '[85-70]'

,SUM(CASE WHEN b.score<=70 AND b.score>60 THEN 1 ELSE 0 END) AS '[70-60]'

,SUM(CASE WHEN b.score<=60 AND b.score>0 THEN 1 ELSE 0 END) AS '[60-0]'

,SUM(CASE WHEN b.score<=100 AND b.score>85 THEN 1 ELSE 0 END)/COUNT(1) AS '[100-85]%'

,SUM(CASE WHEN b.score<=85 AND b.score>70 THEN 1 ELSE 0 END)/COUNT(1) AS '[85-70]%'

,SUM(CASE WHEN b.score<=70 AND b.score>60 THEN 1 ELSE 0 END)/COUNT(1) AS '[70-60]%'

,SUM(CASE WHEN b.score<=60 AND b.score>0 THEN 1 ELSE 0 END)/COUNT(1) AS '[60-0]%'

FROM course a

INNER JOIN sc b

ON a.c=b.c

GROUP BY 1,2  
--24、查询学生平均成绩及其名次

SELECT a.\*

,COUNT(b.s)+1

FROM (

SELECT a.\*,AVG(CASE WHEN b.score IS NULL THEN 0 ELSE b.score END) AS ascore

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4

)a

LEFT JOIN(

SELECT a.\*,AVG(CASE WHEN b.score IS NULL THEN 0 ELSE b.score END) AS ascore

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4

)b

ON a.ascore<b.ascore

GROUP BY 1,2,3,4,5  
--25、查询各科成绩前三名的记录

SELECT a.\*,COUNT(b.c)+1 AS ascore

FROM sc a

LEFT JOIN sc b

ON a.c=b.c AND a.score<b.score

GROUP BY 1,2,3

HAVING ascore<=3

ORDER BY a.c,ascore  
--26、查询每门课程被选修的学生数

SELECT a.\*

,COUNT(b.s)

FROM course a

LEFT JOIN sc b

ON a.c=b.c

GROUP BY 1,2,3  
--27、查询出只有两门课程的全部学生的学号和姓名

SELECT a.\*

,COUNT(b.c)

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4

HAVING COUNT(b.c)=2  
--28、查询男生、女生人数   
--29、查询名字中含有"风"字的学生信息  
--30、查询同名同性学生名单，并统计同名人数

 SELECT sname

,ssex

,COUNT(1)

FROM student

GROUP BY 1,2

HAVING COUNT(1)>1  
--31、查询1990年出生的学生名单(注：Student表中Sage列的类型是datetime)

SELECT \* FROM student WHERE YEAR(sage)=1990  
--32、查询每门课程的平均成绩，结果按平均成绩降序排列，平均成绩相同时，按课程编号

SELECT a.\*

,AVG(b.score) ascore

FROM course a

LEFT JOIN sc b

ON a.c=b.c

GROUP BY 1,2,3

ORDER BY ascore DESC,a.c

--33、查询平均成绩大于等于85的所有学生的学号、姓名和平均成绩

SELECT a.\*

,AVG(b.score) ascore

FROM student a

LEFT JOIN sc b

ON a.s=b.s

GROUP BY 1,2,3,4

HAVING ascore>=85  
--34、查询课程名称为"数学"，且分数低于60的学生姓名和分数

SELECT c.\*

FROM course a

LEFT JOIN sc b

ON a.c=b.c

LEFT JOIN student c

ON b.s=c.s

WHERE a.cname='数学'

AND b.score<60  
--35、查询所有学生的课程及分数情况；

SELECT \*

FROM sc a

INNER JOIN student b

ON a.s=b.s

INNER JOIN course c

ON a.c=c.c  
--36、查询任何一门课程成绩在70分以上的姓名、课程名称和分数；

SELECT b.sname

,c.cname

,a.score

FROM sc a

INNER JOIN student b

ON a.s=b.s

INNER JOIN course c

ON a.c=c.c

WHERE a.score>70  
--37、查询不及格的课程  
--38、查询课程编号为01且课程成绩在80分以上的学生的学号和姓名；

SELECT a.\*

FROM student a

INNER JOIN sc b

ON a.s=b.s

WHERE b.c='01' AND b.score>80  
--39、求每门课程的学生人数   
--40、查询选修"张三"老师所授课程的学生中，成绩最高的学生信息及其成绩

SELECT a.\*,b.score

FROM student a

INNER JOIN sc b

ON a.s=b.s

INNER JOIN(

SELECT c.c

,MAX(c.score) AS maxscore

FROM teacher a

INNER JOIN course b

ON a.t=b.t

INNER JOIN sc c

ON b.c=c.c

WHERE a.tname='张三'

GROUP BY c)c

ON b.c=c.c AND b.score=c.maxscore  
--41、查询不同课程成绩相同的学生的学生编号、课程编号、学生成绩

SELECT a.s

,a.c

,a.score

FROM sc a

INNER JOIN (

SELECT a.score

,b.s

,COUNT(1)

FROM sc a

INNER JOIN student b

ON a.s=b.s

GROUP BY a.score,b.s

HAVING COUNT(1)>1

)b

ON a.s=b.s AND a.score=b.score

方法二

SELECT a.\*

FROM sc a

LEFT JOIN sc b

ON a.s=b.s AND a.score=b.score AND a.c<>b.c

GROUP BY 1,2,3

HAVING COUNT(b.s)>0  
--42、查询每门功成绩最好的前两名   
--43、统计每门课程的学生选修人数（超过5人的课程才统计）。要求输出课程号和选修人数，查询结果按人数降序排列，若人数相同，按课程号升序排列

SELECT a.c

,COUNT(1) AS pnum

FROM sc a

GROUP BY 1

HAVING pnum>5

ORDER BY pnum DESC,a.c  
--44、检索至少选修两门课程的学生学号   
--45、查询选修了全部课程的学生信息

--46、查询各学生的年龄

SELECT a.\*,YEAR(CURDATE())-YEAR(a.sage)

FROM student a  
--47、查询本周过生日的学生

SELECT a.\*

FROM student a

WHERE CONCAT(MONTH(a.sage),DAY(a.sage))>=CONCAT(MONTH(SUBDATE(CURDATE(),WEEKDAY(CURDATE()))),DAY(SUBDATE(CURDATE(),WEEKDAY(CURDATE()))))

AND CONCAT(MONTH(a.sage),DAY(a.sage))<=CONCAT(MONTH(SUBDATE(CURDATE(),WEEKDAY(CURDATE())-6)),DAY(SUBDATE(CURDATE(),WEEKDAY(CURDATE())-6)))

--48、查询下周过生日的学生

--49、查询本月过生日的学生

SELECT a.\* FROM student a WHERE MONTH(a.sage)=MONTH(CURDATE())  
--50、查询下月过生日的学生

SELECT a.\* FROM student a WHERE MONTH(a.sage)=MONTH(CURDATE())+1