

```
use test;
```

1. 查询成绩表中的最高分和平均分

```
SELECT MAX(score) AS 最高分, AVG(score) AS 平均分 FROM score;
```

2. 查询学生的学号、姓名和出生日期，按院系编号降序

```
SELECT id AS 学号, name AS 姓名, birthday AS 出生日期  
FROM stu  
ORDER BY departmentId DESC;
```

3. 查询所有学生的学号、姓名和院系名

```
SELECT stu.id AS 学号, stu.name AS 姓名, department.name AS 院系名  
FROM stu  
JOIN department ON stu.departmentId = department.id;
```

4. 查询参加高等数学课程考试的学生姓名和成绩

```
SELECT stu.name AS 姓名, score.score AS 考试成绩  
FROM score  
JOIN lesson ON score.LessonId = lesson.lessonid  
JOIN stu ON score.stuId = stu.id  
WHERE lesson.lessonName = '数学';
```

5. 查询每个学院的学生人数

```
SELECT department.name AS 院系名, COUNT(stu.id) AS 学生人数  
FROM department  
LEFT JOIN stu ON department.id = stu.departmentId  
GROUP BY department.id;
```

6. 查询平均分最高的前5名学生

```
SELECT stu.id AS 学号, stu.name AS 姓名, AVG(score.score) AS 平均分  
FROM stu  
JOIN score ON stu.id = score.stuId  
GROUP BY stu.id  
ORDER BY 平均分 DESC  
LIMIT 5;
```

7. 查询总学分高于10分的学生

(假设同一课程学分不重复累加)

```

SELECT stu.id AS 学号, stu.name AS 姓名, SUM(DISTINCT lesson.xf) AS 总学分
FROM stu
JOIN score ON stu.id = score.stuId
JOIN lesson ON score.LessonId = lesson.lessonid
GROUP BY stu.id
HAVING 总学分 > 10;

```

8. 查询数学学院学生的成绩和等级，按成绩排序

```

SELECT stu.id AS 学号, stu.name AS 姓名, score.score AS 成绩, grade.grade AS 等级
FROM stu
JOIN score ON stu.id = score.stuId
JOIN department ON stu.departmentId = department.id
JOIN grade ON score.score BETWEEN grade.lowScore AND grade.highScore
WHERE department.id = '101'
ORDER BY score.score DESC;

```

9. 查询数学学院学生的总学分，按学分排序

```

SELECT stu.id AS 学号, stu.name AS 姓名, SUM(DISTINCT lesson.xf) AS 总学分
FROM stu
JOIN score ON stu.id = score.stuId
JOIN lesson ON score.LessonId = lesson.lessonid
WHERE stu.departmentId = '101'
GROUP BY stu.id
ORDER BY 总学分 DESC;

```

10. 查询英语成绩最高的学生及其所有成绩

```

SELECT stu.id AS 学号, stu.name AS 姓名, lesson.lessonName AS 课程, score.score AS 成绩,
department.name AS 学院
FROM stu
JOIN score ON stu.id = score.stuId
JOIN lesson ON score.LessonId = lesson.lessonid
JOIN department ON stu.departmentId = department.id
WHERE stu.id = (
    SELECT stuId
    FROM score
    JOIN lesson ON score.LessonId = lesson.lessonid
    WHERE lesson.lessonName = '英语'
    ORDER BY score.score DESC
    LIMIT 1
);

```