

SQL专项面试题-2

准备数据

学生表

```
DROP TABLE IF EXISTS `students`;
CREATE TABLE `students` (
  `Sid` varchar(11) NOT NULL,
  `Sname` varchar(20) DEFAULT NULL,
  `Sage` int(11) DEFAULT NULL,
  PRIMARY KEY (`Sid`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

INSERT INTO `students` VALUES ('s01', '巧虎', '18');
INSERT INTO `students` VALUES ('s02', '琪琪', '19');
INSERT INTO `students` VALUES ('s03', '桃乐比', '18');
INSERT INTO `students` VALUES ('s04', '圆圆', '17');
INSERT INTO `students` VALUES ('s05', '美美', '20');
INSERT INTO `students` VALUES ('s06', '多比', '25');
```

老师表

```
DROP TABLE IF EXISTS `teachers`;
CREATE TABLE `teachers` (
  `Tid` varchar(11) NOT NULL,
  `Tname` varchar(20) DEFAULT NULL,
  PRIMARY KEY (`Tid`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

INSERT INTO `teachers` VALUES ('1', '汪老师');
INSERT INTO `teachers` VALUES ('2', '小朋老师');
INSERT INTO `teachers` VALUES ('3', '皮皮老师');
INSERT INTO `teachers` VALUES ('4', '熊五郎老师');
INSERT INTO `teachers` VALUES ('5', '微微老师');
INSERT INTO `teachers` VALUES ('6', '天天老师');
```

课程表

```

DROP TABLE IF EXISTS `courses`;
CREATE TABLE `courses` (
  `Cid` varchar(11) NOT NULL,
  `Cname` varchar(20) DEFAULT NULL,
  `Cteacher` varchar(20) DEFAULT NULL,
  PRIMARY KEY (`Cid`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

INSERT INTO `courses` VALUES ('c01', '美术', '汪老师');
INSERT INTO `courses` VALUES ('c02', '音乐', '小鹏老师');
INSERT INTO `courses` VALUES ('c03', '体能', '皮皮老师');
INSERT INTO `courses` VALUES ('c04', '自行车', '熊五郎老师');
INSERT INTO `courses` VALUES ('c05', '钢琴', '微微老师');

```

成绩表

```

DROP TABLE IF EXISTS `results`;
CREATE TABLE `results` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `Sid` varchar(11) DEFAULT NULL,
  `Cid` varchar(11) DEFAULT NULL,
  `Cscore` varchar(11) DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=16 DEFAULT CHARSET=utf8;

INSERT INTO `results` VALUES ('1', 's01', 'c01', '58');
INSERT INTO `results` VALUES ('2', 's01', 'c02', '59');
INSERT INTO `results` VALUES ('3', 's01', 'c03', '55');
INSERT INTO `results` VALUES ('4', 's02', 'c02', '83');
INSERT INTO `results` VALUES ('5', 's02', 'c05', '79');
INSERT INTO `results` VALUES ('6', 's02', 'c04', '77');
INSERT INTO `results` VALUES ('7', 's03', 'c01', '55');
INSERT INTO `results` VALUES ('8', 's03', 'c03', '81');
INSERT INTO `results` VALUES ('9', 's03', 'c04', '73');
INSERT INTO `results` VALUES ('10', 's04', 'c01', '67');
INSERT INTO `results` VALUES ('11', 's04', 'c02', '78');
INSERT INTO `results` VALUES ('12', 's04', 'c03', '82');
INSERT INTO `results` VALUES ('13', 's04', 'c05', '80');
INSERT INTO `results` VALUES ('14', 's05', 'c01', '61');
INSERT INTO `results` VALUES ('15', 's04', 'c04', '78');

```

面试题

1. 查询并统计同龄学生人数

参考答案:

```
select Sage,count(*) from students group by Sage;
```

2. 查询每门课程的平均成绩，结果按平均成绩升序排列，平均成绩相同时，按课程号降序排列

参考答案:

```
select Cid,avg(Cscore) from results group by Cid order by avg(Cscore),Cid desc;
```

3. 按平均成绩从高到低显示所有学生的平均成绩

参考答案:

```
select Sid,avg(Cscore) from results group by Sid order by avg(Cscore) desc;
```

4. 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

参考答案:

```
select r.Cid 课程ID,c.Cname 课程name,max(r.Cscore) 最高分,min(r.Cscore) 最低分,avg(r.Cscore) 平均分
from results r
inner join courses c on r.Cid = c.Cid
group by 课程ID;
```

5. 按各科平均成绩从低到高顺序排序

参考答案:

```
select Cid,avg(Cscore) from results group by Cid;
```

6. 查询学生的总成绩并进行排名

参考答案:

```
select Sid,sum(Cscore) from results group by Sid order by sum(Cscore) desc;
```

7. 检索至少选修两门课程的学生学号

参考答案:

```
select Sid,count(Cid) from results group by Sid having count(Cid) >= 2;
```

8. 查询出只选修了一门课程的全部学生的学号和姓名

参考答案:

```
select r.Sid,s.Sname from results r
inner join students s on r.Sid = s.Sid
group by r.Sid having count(r.Cid) = 1;
```

9. 查询每门课都在70分以上的学生id

参考答案:

```
select Sid from results group by Sid having min(Cscore) >70;
```

10. 查询课程编号为"c01"且课程成绩在60分以上的学生的学号和姓名

参考答案:

```
select r.Sid,s.Sname from results r
inner join students s on r.Sid = s.Sid
where r.Cid='c01' and r.Cscore>60;
```

11. 查询平均成绩大于60分的同学的学号和平均成绩

参考答案:

```
select Sid,avg(Cscore) from results group by Sid having avg(Cscore)>60;
```

12. 查询所有同学的学号、姓名、选课数、总成绩

参考答案:

```
select r.Sid,s.Sname,count(r.Cid),sum(r.Cscore) from results r  
inner join students s on r.Sid = s.Sid  
group by r.Sid;
```