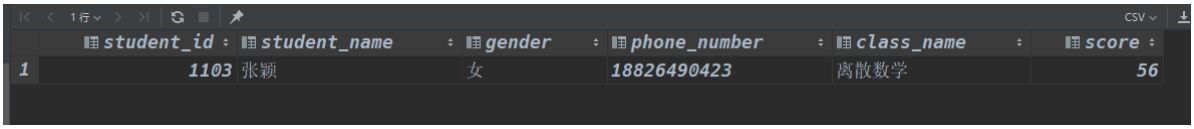
第五周实验

1. 建立计算机学院总评不及格成绩学生的视图，包括学生学号、姓名、性别、手机、所选择课程和成绩。

首先先检索出相应的学生信息：

```
select s.student_id,s.student_name,s.gender,s.phone_number, c.class_name,
sc.score
from student s
join select_class sc on s.student_id = sc.student_id
join class c on sc.class_id = c.class_id
where s.yxh='01' and sc.score < 60;
```

检索的结果：



	student_id	student_name	gender	phone_number	class_name	score
1	1103	张颖	女	18826490423	离散数学	56

建立视图：

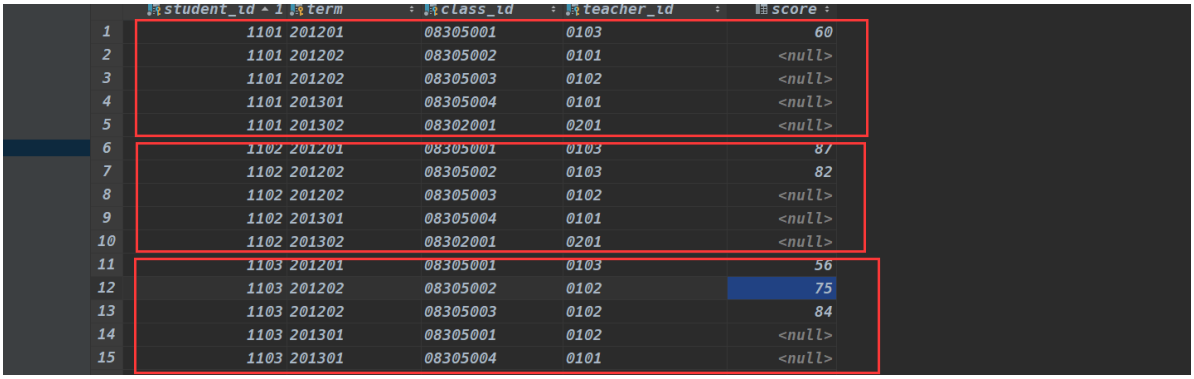
```
create view failed_01 as
select s.student_id,s.student_name,s.gender,s.phone_number, c.class_name,
sc.score
from student s
join select_class sc on s.student_id = sc.student_id
join class c on sc.class_id = c.class_id
where s.yxh='01' and sc.score < 60;
```

2. 在选课表中插入记录，把每一个学生没有学过的课程都插入到选课表中，使得每一个学生都选修每门课程。

代码：

```
insert into select_class(student_id, term, class_id, teacher_id, score)
select s.student_id, os.term, os.class_id, os.teacher_id, NULL
from student s
join open_class os
where not exists(
        select * from select_class sc
        where sc.student_id=s.student_id and os.class_id=sc.class_id)
group by s.student_id, os.class_id ;
```

结果：



	student_id	term	class_id	teacher_id	score
1	1101	201201	08305001	0103	60
2	1101	201202	08305002	0101	<null>
3	1101	201202	08305003	0102	<null>
4	1101	201301	08305004	0101	<null>
5	1101	201302	08302001	0201	<null>
6	1102	201201	08305001	0103	87
7	1102	201202	08305002	0103	82
8	1102	201202	08305003	0102	<null>
9	1102	201301	08305004	0101	<null>
10	1102	201302	08302001	0201	<null>
11	1103	201201	08305001	0103	56
12	1103	201202	08305002	0102	75
13	1103	201202	08305003	0102	84
14	1103	201301	08305001	0102	<null>
15	1103	201301	08305004	0101	<null>

从上面图示中，我们可以很清楚的看到所有的学生选课的个数都是五。

第二种方案：

```
insert into select_class(student_id, term, class_id, teacher_id, score)
select s.student_id, oc.term, oc.class_id, oc.term, oc.teacher_id
from student s
join open_class oc
where (s.student_id, oc.class_id) not in (select select_class.student_id,
select_class.class_id from select_class)
group by s.student_id,oc.class_id;
```

3. 检索出年龄大于所有女同学年龄的男学生的姓名和年龄

代码：

```
select *
from student
where gender='男' and birthday < (select min(birthday)
from student
where gender='女');
```

执行结果：

	student_id	student_name	gender	birthday	native_place	phone_number	yxh	state
1	1102	刘晓明	男	1992-12-08	安徽	18913457890	01	<null>
2	1105	刘成刚	男	1991-06-07	上海	18015872567	01	<null>
3	1107	张晓峰	男	1992-08-16	浙江	13912341078	01	<null>

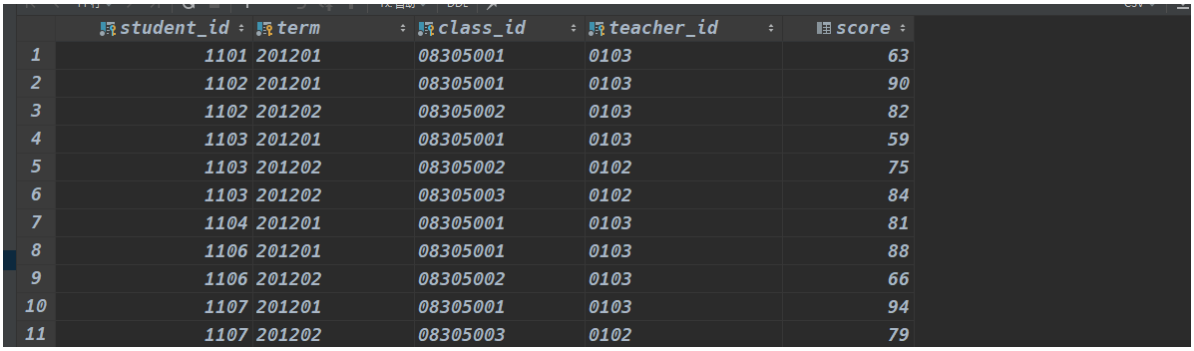
4. 在选课表中修改08305001课程的平时成绩，如果成绩小于75分的话提高5%，如果成绩大于75分提高4%

代码：

```
-- 如果成绩小于等于75分的时候提高成绩5%
update select_class set score=score*105/100 where score <= 75 and class_id
='08305001';

-- 如果成绩大于75岁就提高4%
update select_class set score=score*104/100 where score > 75 and class_id =
'08305001';
```

执行结果：



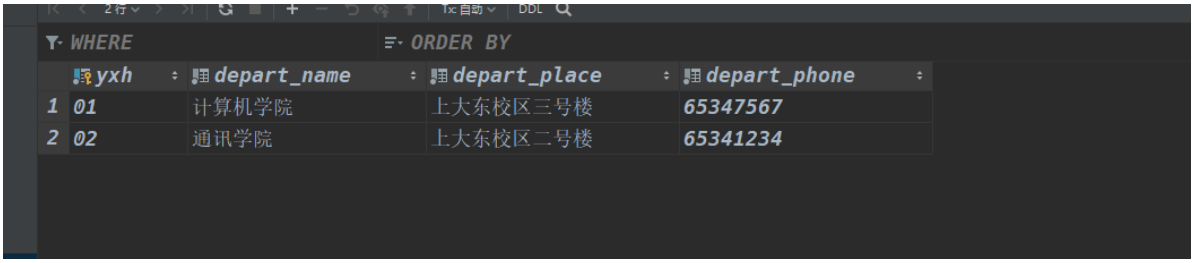
	student_id	term	class_id	teacher_id	score
1	1101	201201	08305001	0103	63
2	1102	201201	08305001	0103	90
3	1102	201202	08305002	0103	82
4	1103	201201	08305001	0103	59
5	1103	201202	08305002	0102	75
6	1103	201202	08305003	0102	84
7	1104	201201	08305001	0103	81
8	1106	201201	08305001	0103	88
9	1106	201202	08305002	0103	66
10	1107	201201	08305001	0103	94
11	1107	201202	08305003	0102	79

5. 删除没有开课的学院

代码：

```
-- 修改外键的属性
ALTER TABLE student add constraint fk_student_yxh FOREIGN KEY (yxh)
references department(yxh) on update cascade on delete set null ;
ALTER TABLE teacher add constraint fk_tearcher_yxh FOREIGN KEY (yxh)
references department(yxh) on update cascade on delete set null ;
ALTER TABLE class add constraint fk_class_yxh FOREIGN KEY (yxh) references
department(yxh) on update cascade on delete cascade ;
-- 进行修改
delete from department
where yxh not in (
    select distinct class.yxh
    from class
    join open_class oc on class.class_id = oc.class_id
    group by class.class_id);
```

执行结果：



WHERE ORDER BY

	yxh	depart_name	depart_place	depart_phone
1	01	计算机学院	上大东校区三号楼	65347567
2	02	通讯学院	上大东校区二号楼	65341234

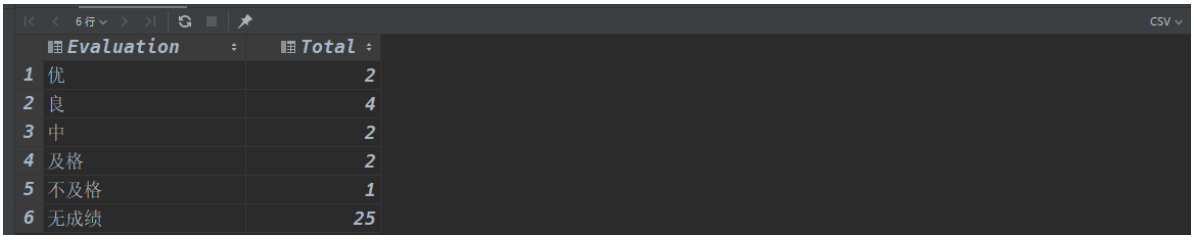
6. 查询优、良、中、及格、不及格学生的个数

方案一：

```
select Evaluation, count(*) as Total
from (
    select score,
    case
        when score < 60 and score >= 0 then '不及格'
        when score >= 60 and score < 70 then '及格'
        when score >= 70 and score < 80 then '中'
        when score >= 80 and score < 90 then '良'
        when score >= 90 and score < 100 then '优'
    else '无成绩' end as Evaluation
    from select_class
) TEMP_TABLE
```

```
group by Evaluation
ORDER BY FIELD(Evaluation,
    '优',
    '良',
    '中',
    '及格',
    '不及格',
    '无成绩');
```

执行结果：



	Evaluation	Total
1	优	2
2	良	4
3	中	2
4	及格	2
5	不及格	1
6	无成绩	25

方案二：

```
select
    (select count(*) from select_class where score >= 90) '优',
    (select count(*) from select_class where score < 90 and score >= 80) '良',
    (select count(*) from select_class where score < 80 and score >= 70) '中',
    (select count(*) from select_class where score < 70 and score >= 60) '及格',
    (select count(*) from select_class where score < 60 and score >= 0) '不及格',
    (select count(*) from select_class where score is null) '无成绩';
```

执行结果：

优	良	中	及格	不及格	无成绩
2	4	2	2	1	25