# 简单SQL查询的实验报告

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## 一、实验目的

掌握非嵌套SQL查询用法.

## 二、实验内容

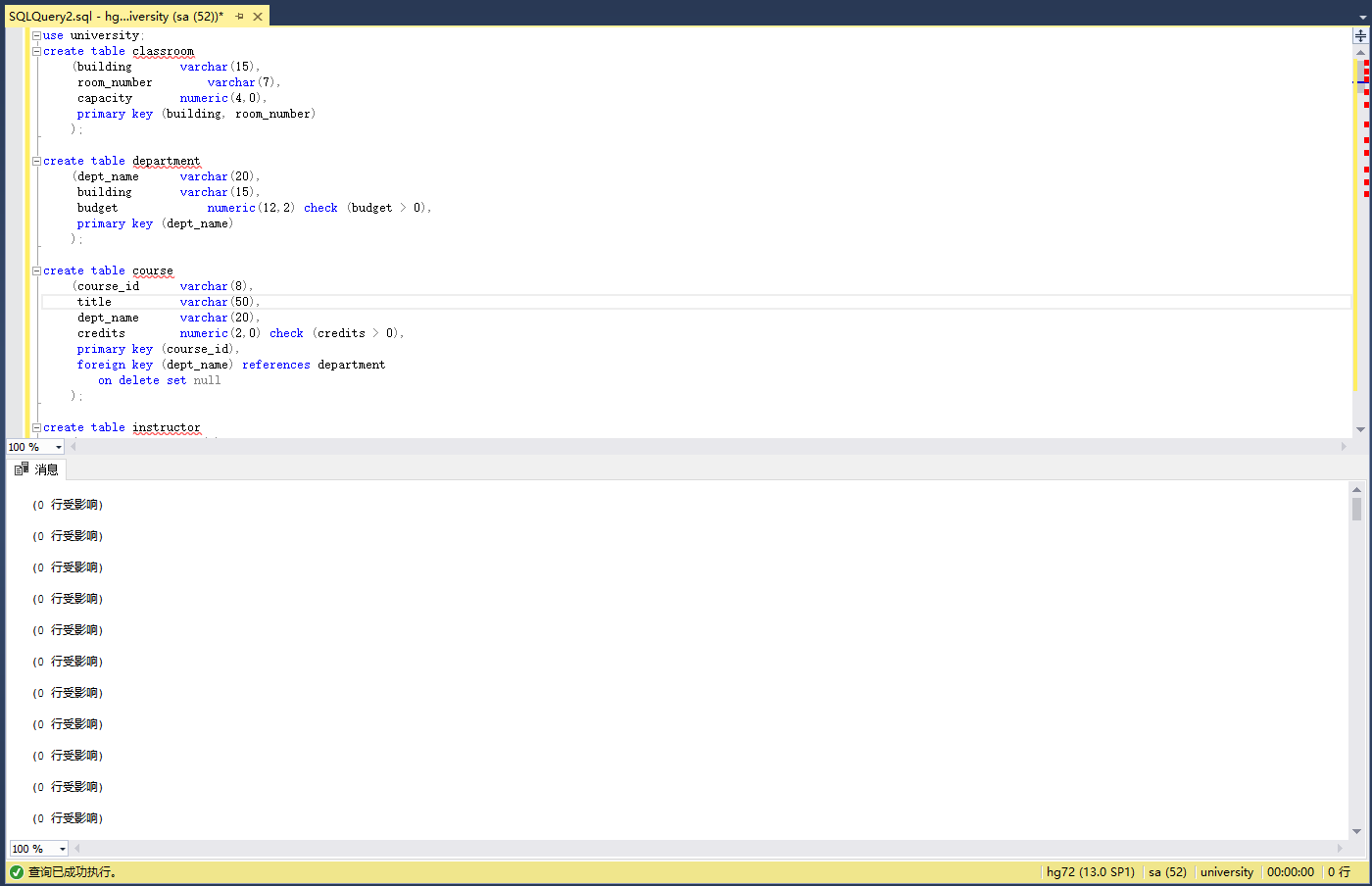
1. 运行脚本smallRelationsInsertFile.sql (见教学在线) 创建一个名为university数据库及其表格和数据.
2. 任选以上步骤中创建好的表格, 自己设计问题, 逐一展示如下命令的用法. 某些情况, 可能需要插入新的数据. 可参考教材例子.
   1. Natural Join
   2. String Operations: % \_
   3. between
   4. Rename Operation: as
   5. order by
   6. min
   7. max
   8. sum
   9. count

## 三、实验环境

1. 操作系统: Windows 10，version 1607
2. 数据库: Microsoft SQL Server Management Studio 17

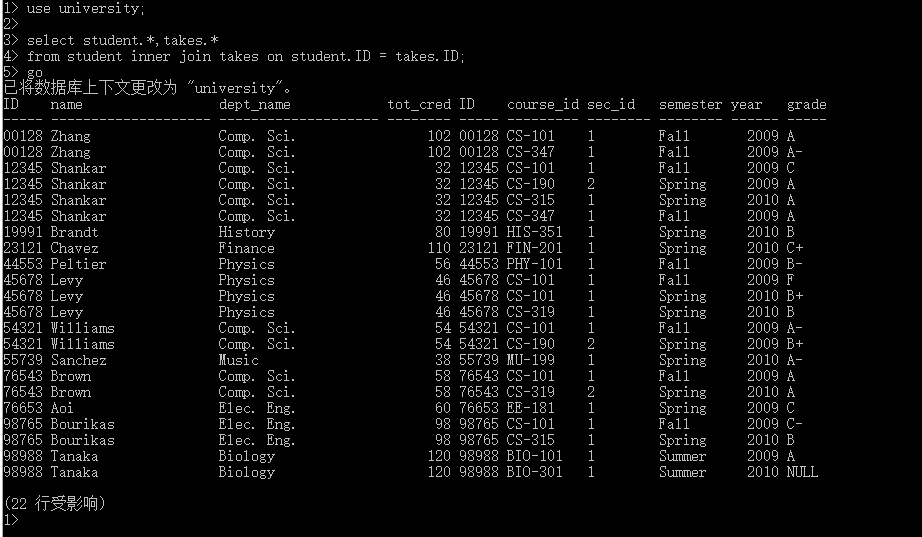
## 四、实验步骤

1. 创建数据库并导入数据：

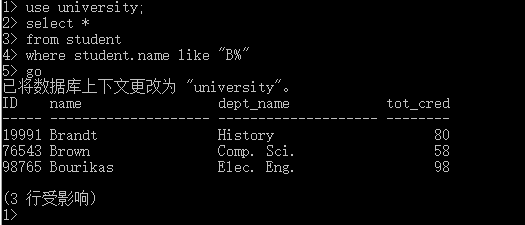


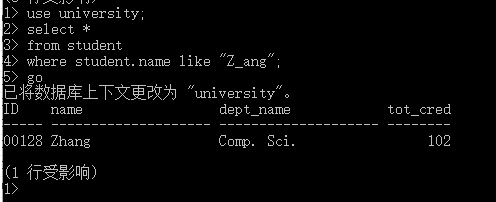
2. 设计问题并解决

a. 自然连接

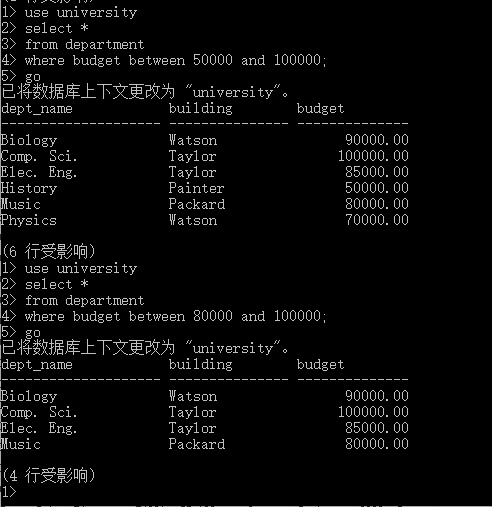


b． 字符串操作

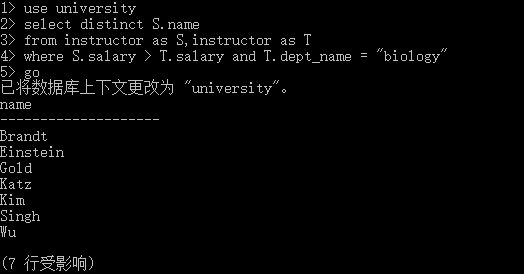




c. between



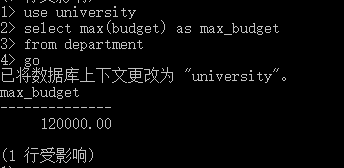
d. 重命名



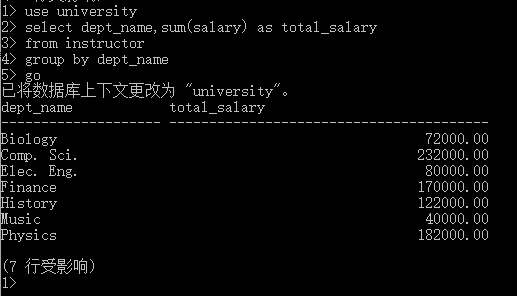
e. min



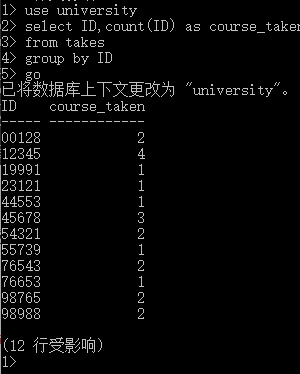
f. max



g. sum



h. count



代码：

// Natural join

use university;

select student.\*,takes.\*

from student inner join takes on student.ID = takes.ID;

// String operation

use university;

select \*

from student

where student.name like "B\*";

use university;

select \*

from student

where student.name like "Z\_ang";

// Between

use university

select \*

from department

where budget between 50000 and 100000;

// Rename

use university

select distinct S.name

from instructor as S,instructor as T

where S.salary > T.salary and T.dept\_name = "biology"

// Min

use university

select min(budget) as min\_budget

from department

// Max

use university

select max(budget) as max\_budget

from department

// Count

use university

select ID,count(ID) as course\_taken

from takes

group by ID

// Sum

use university

select dept\_name,sum(salary) as total\_salary

from instructor

group by dept\_name

## 五、实验总结

不同数据库对于关键字的支持是不一样的，如果发现一个函数或者一个关键字不可用，要善于利用其它的功能来组合实现系统本身未能实现的功能，这要求我们对基本功能有深厚的理解，以及对高级功能的实现原理有足够的认识。