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**《大型数据库》**

**课内实验二**

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# 实验内容

## 实验目的

本实验主要是熟悉ORACLE的后台编程，包括触发器与过程的编制，可比较基于SQL Server的触发器与过程。

## 实验内容

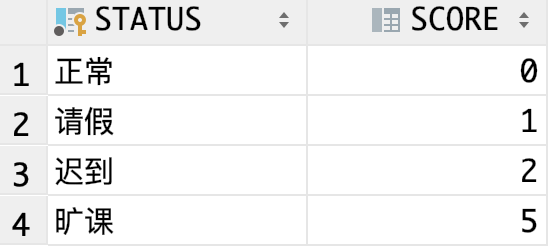
1. **设计与建立上课考勤表Attend\_???，能登记每个学生的考勤记录包括正常、迟到、旷课、请假。能统计以专业为单位的出勤类别并进行打分评价排序，如迟到、旷课、请假分别扣2，5，1分。可以考虑给一初始的分值，以免负值。**
2. 为major表与stud表增加sum\_evaluation 数值字段，以记录根据考勤表Attend\_???(Attendance)中出勤类别打分汇总的值。
3. 建立个人考勤汇总表stud\_attend与专业考勤表major\_attend，表示每个学生或每个专业在某时间周期（起始日期，终止日期）正常、迟到、旷课、请假次数及考勤分值。
4. 根据major表中的值与stud中的值，为考勤表Attend输入足够的样本值，要求每个专业都要有学生，有部分学生至少要有一周的每天5个单元（12，34，56，78，90，没有课的单元可以没有考勤记录）的考勤完整记录，其中**正常、迟到、旷课、请假** 可以用数字或字母符号表示。
5. 建立触发器，当对考勤表Attend表进行相应插入、删除、修改时，对stud表的sum\_evaluation 数值进行相应的数据更新。
6. 建立过程，生成某专业某时段（起、止日期）的考勤汇总表major\_attend中各字段值，并汇总相应专业，将考勤分值的汇总结果写入到major表中的sum\_evaluation中。

# 源程序清单

## 第一题

**题目：**设计与建立上课考勤表Attend\_???，能登记每个学生的考勤记录包括正常、迟到、旷课、请假。能统计以专业为单位的出勤类别并进行打分评价排序，如迟到、旷课、请假分别扣2，5，1分。可以考虑给一初始的分值，以免负值。

*--建立一个记录表，里面存的是各种情况的分数，并插入数据***create table** T\_scoreOfAllSituation\_W125(  
 **Status nvarchar2**(2) **primary key** ,  
 **Score int**);  
**insert into** T\_scoreOfAllSituation\_W125 **values** (**'正常'**, 0);  
**insert into** T\_scoreOfAllSituation\_W125 **values** (**'请假'**, 1);  
**insert into** T\_scoreOfAllSituation\_W125 **values** (**'迟到'**, 2);  
**insert into** T\_scoreOfAllSituation\_W125 **values** (**'旷课'**, 5);



*--创建Attend表***create table** T\_Attend\_W125 (  
 **Sno char**(16),  
 **marjorNo char**(2),  
 **sDay date**,  
 **unit varchar**(2) **check** ( **unit in** (**'12'**, **'34'**, **'56'**, **'78'**, **'90'**) ),  
 **Status nvarchar2**(2) **check** ( **Status in** (**'正常'**, **'请假'**, **'迟到'**, **'旷课'**) ),  
 **constraint** pk\_T\_Attend **primary key**(**Sno**, **sDay**, **unit**),  
 **constraint** fk\_T\_Attend\_sno **foreign key** (**Sno**) **references** T\_STUD\_W125(**SNO**),  
 **constraint** fk\_T\_Attend\_mno **foreign key** (**marjorNo**) **references** T\_MAJOR\_W125(**MAJORNO**)  
);

*--因为实验环境在docker，且没有做数据持久化，因此，需要重新插入一些数据  
--插入数据，并测试完整性约束***insert into** T\_major\_W125 **values** (**'09'**, **'计科'**, **'主校区'**, **'刘老师'**);  
**insert into** T\_major\_W125 **values** (**'07'**, **'大数据'**, **'新校区'**, **'张老师'**);  
**insert into** T\_major\_W125 **values** (**'08'**, **'物联网'**, **'南校区'**, **'贺老师'**);  
  
*--为每一个专业插入学生  
--物联网***insert into** T\_stud\_W125 **values** (**'8208181125'**, **'王灏洋'**,  
 **'Male'**, **'13565759137'**, **'165788297@qq.com'**, **'28-4月-2000'**, **'8208181125'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181126'**, **'王一'**,  
 **'Male'**, **'13565759138'**, **'165788298@qq.com'**, **'29-4月-2000'**, **'8208181125'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181127'**, **'王二'**,  
 **'Male'**, **'13565759139'**, **'165788299@qq.com'**, **'30-4月-2000'**, **'8208181125'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181128'**, **'王三'**,  
 **'Male'**, **'13565759140'**, **'165788300@qq.com'**, **'20-4月-2000'**, **'8208181125'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181129'**, **'王四'**,  
 **'Male'**, **'13565759141'**, **'165788301@qq.com'**, **'21-4月-2000'**, **'8208181125'**, **'08'**);  
  
**insert into** T\_stud\_W125 **values** (**'8208181230'**, **'王五'**,  
 **'Male'**, **'13565759142'**, **'165788302@qq.com'**, **'22-4月-2000'**, **'8208181230'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181231'**, **'王六'**,  
 **'Male'**, **'13565759143'**, **'165788303@qq.com'**, **'23-4月-2000'**, **'8208181230'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181232'**, **'王七'**,  
 **'Male'**, **'13565759144'**, **'165788304@qq.com'**, **'24-4月-2000'**, **'8208181230'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181233'**, **'王八'**,  
 **'Male'**, **'13565759145'**, **'165788305@qq.com'**, **'25-4月-2000'**, **'8208181230'**, **'08'**);  
**insert into** T\_stud\_W125 **values** (**'8208181234'**, **'王九'**,  
 **'Male'**, **'13565759146'**, **'165788306@qq.com'**, **'26-4月-2000'**, **'8208181230'**, **'08'**);  
  
*--计科***insert into** T\_stud\_W125 **values** (**'8209181125'**, **'张零'**,  
 **'Female'**, **'18139087699'**, **'2359661@qq.com'**, **'21-6月-2000'**, **'8209181125'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181126'**, **'张一'**,  
 **'Male'**, **'18139087670'**, **'12359662@qq.com'**, **'22-6月-2000'**, **'8209181125'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181127'**, **'张二'**,  
 **'Male'**, **'18139087671'**, **'2359663@qq.com'**, **'23-6月-2000'**, **'8209181125'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181128'**, **'张三'**,  
 **'Female'**, **'18139087672'**, **'2359664@qq.com'**, **'24-6月-2000'**, **'8209181125'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181129'**, **'张四'**,  
 **'Male'**, **'18139087673'**, **'2359665@qq.com'**, **'25-6月-2000'**, **'8209181125'**, **'09'**);  
  
**insert into** T\_stud\_W125 **values** (**'8209181230'**, **'张五'**,  
 **'Female'**, **'18139087674'**, **'2359666@qq.com'**, **'26-6月-2000'**, **'8209181230'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181231'**, **'张六'**,  
 **'Male'**, **'18139087675'**, **'2359667@qq.com'**, **'27-6月-2000'**, **'8209181230'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181232'**, **'张七'**,  
 **'Female'**, **'18139087676'**, **'2359668@qq.com'**, **'28-6月-2000'**, **'8209181230'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181233'**, **'张八'**,  
 **'Male'**, **'18139087677'**, **'2359669@qq.com'**, **'29-6月-2000'**, **'8209181230'**, **'09'**);  
**insert into** T\_stud\_W125 **values** (**'8209181234'**, **'张九'**,  
 **'Female'**, **'18139087678'**, **'2359670@qq.com'**, **'30-6月-2000'**, **'8209181230'**, **'09'**);  
  
*--大数据***insert into** T\_stud\_W125 **values** (**'8207181125'**, **'李零'**,  
 **'Female'**, **'13999002010'**, **'416959600@qq.com'**, **'21-6月-2001'**, **'8207181125'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181126'**, **'李一'**,  
 **'Male'**, **'13999002011'**, **'416959601@qq.com'**, **'22-6月-2001'**, **'8207181125'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181127'**, **'李二'**,  
 **'Male'**, **'13999002012'**, **'416959602@qq.com'**, **'23-6月-2001'**, **'8207181125'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181128'**, **'李三'**,  
 **'Female'**, **'13999002013'**, **'416959603@qq.com'**, **'24-6月-2001'**, **'8207181125'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181129'**, **'李四'**,  
 **'Male'**, **'13999002014'**, **'416959604@qq.com'**, **'25-6月-2001'**, **'8207181125'**, **'07'**);  
  
**insert into** T\_stud\_W125 **values** (**'8207181230'**, **'李五'**,  
 **'Female'**, **'13999002015'**, **'416959605@qq.com'**, **'26-6月-2001'**, **'8207181230'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181231'**, **'李六'**,  
 **'Male'**, **'13999002016'**, **'416959606@qq.com'**, **'27-6月-2001'**, **'8207181230'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181232'**, **'李七'**,  
 **'Female'**, **'13999002017'**, **'416959607@qq.com'**, **'28-6月-2001'**, **'8207181230'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181233'**, **'李八'**,  
 **'Male'**, **'13999002018'**, **'416959608@qq.com'**, **'29-6月-2001'**, **'8207181230'**, **'07'**);  
**insert into** T\_stud\_W125 **values** (**'8207181234'**, **'李九'**,  
 **'Female'**, **'13999002019'**, **'416959609@qq.com'**, **'30-6月-2001'**, **'8207181230'**, **'07'**);

## 第二题

**题目：**为major表与stud表增加sum\_evaluation 数值字段，以记录根据考勤表Attend\_???(Attendance)中出勤类别打分汇总的值。

*--为major表与stud表增加sum\_evaluation 数值字段，  
--以记录根据考勤表Attend\_???(Attendance)中出勤类别打分汇总的值。***alter table** T\_STUD\_W125 **add** (**sum\_evaluation number**);  
**alter table** T\_MAJOR\_W125 **add** (**sum\_evaluation number**);

## 第三题

**题目：**建立个人考勤汇总表stud\_attend与专业考勤表major\_attend，表示每个学生或每个专业在某时间周期（起始日期，终止日期）正常、迟到、旷课、请假次数及考勤分值。

*-- 3. 建立个人考勤汇总表stud\_attend与专业考勤表major\_attend，  
-- 表示每个学生或每个专业在某时间周期（起始日期，终止日期）  
-- 正常、迟到、旷课、请假次数及考勤分值。***create table** T\_stud\_Attend\_W125(  
 **Sno char**(16),  
 **sTime date**,  
 **eTime date**,  
 **normalCnt int**,  
 **leaveCnt int**,  
 **lateCnt int**,  
 **absentCnt int**,  
 **score number**,  
 **constraint** pk\_T\_stud\_Attend\_time **primary key** (**Sno**, **sTime**, **eTime**),  
 **constraint** fk\_T\_stud\_Attend\_sno **foreign key** (**sno**) **references** T\_STUD\_W125(**SNO**)  
);  
  
**create table** T\_major\_Attend\_W125(  
 **majorNo char**(2),  
 **sTime date**,  
 **eTime date**,  
 **normalCnt int**,  
 **leaveCnt int**,  
 **lateCnt int**,  
 **absentCnt int**,  
 **score number**,  
 **constraint** pk\_T\_major\_Attend\_time **primary key** (**MajorNo**, **sTime**, **eTime**),  
 **constraint** fk\_T\_major\_Attend\_W125 **foreign key** (**MajorNo**) **references** T\_MAJOR\_W125(**MAJORNO**)  
);

## 第四题

**题目：**根据major表中的值与stud中的值，为考勤表Attend输入足够的样本值，要求每个专业都要有学生，有部分学生至少要有一周的每天5个单元（12，34，56，78，90，没有课的单元可以没有考勤记录）的考勤完整记录，其中正常、迟到、旷课、请假 可以用数字或字母符号表示。

*--4．根据major表中的值与stud中的值，为考勤表Attend输入足够的样本值，  
-- 要求每个专业都要有学生，有部分学生至少要有一周的每天5个单元  
-- （12，34，56，78，90，没有课的单元可以没有考勤记录）的考勤完整记录，  
-- 其中正常、迟到、旷课、请假可以用数字或字母符号表示。  
--物联网***insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'24-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'24-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'25-11月-2020'**,**'12'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'25-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'27-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'24-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'24-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'25-11月-2020'**,**'12'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'25-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'27-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181126'**,**'08'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'24-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'24-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'25-11月-2020'**,**'12'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'25-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'25-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'27-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8208181127'**,**'08'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
*--计科***insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'24-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'24-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'25-11月-2020'**,**'12'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'25-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181125'**,**'09'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'23-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'24-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'24-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'25-11月-2020'**,**'12'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'25-11月-2020'**,**'90'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181126'**,**'09'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'24-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'24-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'24-11月-2020'**,**'90'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'25-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'25-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8209181127'**,**'09'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
*--大数据***insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'23-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'24-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'24-11月-2020'**,**'78'**,**'请假'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'24-11月-2020'**,**'90'**,**'迟到'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'25-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'25-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'26-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'27-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_attend\_W125 **values**(**'8207181125'**,**'07'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'24-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'24-11月-2020'**,**'78'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'24-11月-2020'**,**'90'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'25-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'25-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'27-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181126'**,**'07'**,**'27-11月-2020'**,**'78'**,**'正常'**);  
  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'23-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'23-11月-2020'**,**'34'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'24-11月-2020'**,**'12'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'24-11月-2020'**,**'78'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'24-11月-2020'**,**'90'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'25-11月-2020'**,**'12'**,**'迟到'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'25-11月-2020'**,**'34'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'25-11月-2020'**,**'90'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'26-11月-2020'**,**'34'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'26-11月-2020'**,**'56'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'26-11月-2020'**,**'78'**,**'正常'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'27-11月-2020'**,**'12'**,**'请假'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'27-11月-2020'**,**'34'**,**'旷课'**);  
**insert into** T\_Attend\_W125 **values**(**'8207181127'**,**'07'**,**'27-11月-2020'**,**'78'**,**'正常'**);

*--单项列出***select** T\_Attend\_W125.**Status**, **marjorNo**, *sum*(**Score**)  
**from** T\_Attend\_W125, T\_scoreOfAllSituation\_W125  
**where** T\_Attend\_W125.**Status** = T\_scoreOfAllSituation\_W125.**Status and** T\_Attend\_W125.**Status**<>**'正常'  
group by marjorNo**, T\_Attend\_W125.**Status  
order by** *sum*(**Score**);  
  
*--共计***select marjorNo**, *sum*(**Score**)  
**from** T\_Attend\_W125, T\_scoreOfAllSituation\_W125  
**where** T\_Attend\_W125.**Status** = T\_scoreOfAllSituation\_W125.**Status and** T\_Attend\_W125.**Status**<>**'正常'  
group by marjorNo  
order by** *sum*(**Score**);

## 第五题

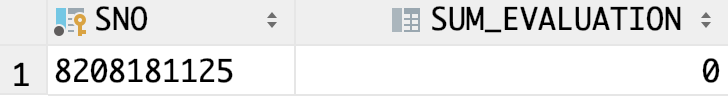
**题目：**建立触发器，当对考勤表Attend表进行相应插入、删除、修改时，对stud表的sum\_evaluation 数值进行相应的数据更新。

*--5. 建立触发器，当对考勤表Attend表进行相应插入、删除、修改时，  
--对stud表的sum\_evaluation 数值进行相应的数据更新。***create or replace trigger** tg\_T\_Attend\_W125 **before insert or update or delete on** T\_Attend\_W125  
**for each row  
declare** mNewScore **binary\_integer**;  
 mOldScore **binary\_integer**;  
**begin  
 if inserting then  
 select Score into** mNewScore **from** T\_scoreOfAllSituation\_W125  
 **where Status** = :**new**.**Status**;  
 **update** T\_STUD\_W125  
 **set sum\_evaluation**=*nvl*(**sum\_evaluation**, 0) + mNewScore  
 **where Sno** = :**new**.**Sno**;  
 **elsif updating then  
 select Score into** mNewScore **from** T\_scoreOfAllSituation\_W125  
 **where Status** = :**new**.**Status**;  
 **select Score into** mOldScore **from** T\_scoreOfAllSituation\_W125  
 **where Status** = :**old**.**Status**;  
 **update** T\_STUD\_W125  
 **set sum\_evaluation**=*nvl*(**sum\_evaluation**, 0) - mOldScore  
 **where Sno** = :**old**.**Sno**;  
 **update** T\_STUD\_W125  
 **set sum\_evaluation**=*nvl*(**sum\_evaluation**, 0) + mNewScore  
 **where Sno** = :**new**.**Sno**;  
 **else** *--delete* **select Score into** mOldScore **from** T\_scoreOfAllSituation\_W125  
 **where Status** = :**old**.**Status**;  
 **update** T\_STUD\_W125  
 **set sum\_evaluation** = *nvl*(**sum\_evaluation**, 0) - mOldScore  
 **where SNO** = :**old**.**sno**;  
 **end if**;  
**end**;

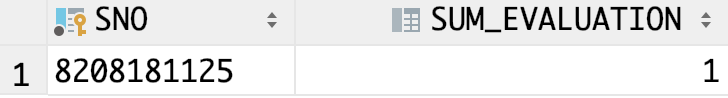
*--测试一下，插入***select Sno**, **sum\_evaluation from** T\_stud\_W125 **where Sno**=**'8208181125'**;  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'28-11月-2020'**,**'78'**,**'请假'**);  
**select sno**,**sum\_evaluation from** T\_stud\_W125 **where sno**=**'8208181125'**;  
  
*--删除***select Sno**, **sum\_evaluation from** T\_stud\_W125 **where Sno**=**'8208181125'**;  
**delete from** T\_Attend\_W125 **where Sno** = 8208181125 **and marjorNo** = 08 **and sDay** = **'28-11月-2020' and unit** = **'78' and Status** = **'请假'**;  
**select sno**,**sum\_evaluation from** T\_stud\_W125 **where sno**=**'8208181125'**;  
  
*--更新***select Sno**, **sum\_evaluation from** T\_stud\_W125 **where Sno**=**'8208181125'**;  
**insert into** T\_Attend\_W125 **values**(**'8208181125'**,**'08'**,**'28-11月-2020'**,**'78'**,**'请假'**);  
**select sno**,**sum\_evaluation from** T\_stud\_W125 **where sno**=**'8208181125'**;  
**update** T\_Attend\_W125 **set Status** = **'迟到' where Sno** = 8208181125 **and marjorNo** = 08 **and sDay** = **'28-11月-2020' and unit** = **'78' and Status** = **'请假'**;  
**select sno**,**sum\_evaluation from** T\_stud\_W125 **where sno**=**'8208181125'**;

* 插入测试

1. 插入前

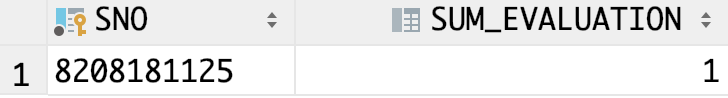


1. 插入后

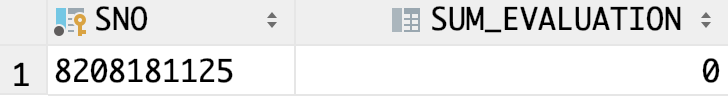


* 删除测试

1. 删除前

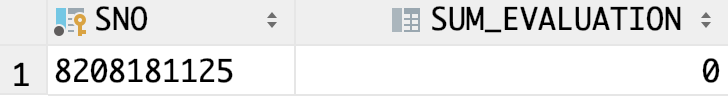


1. 删除后

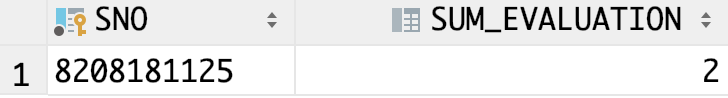


* 更新测试

1. 更新前



1. 更新后



## 第六题

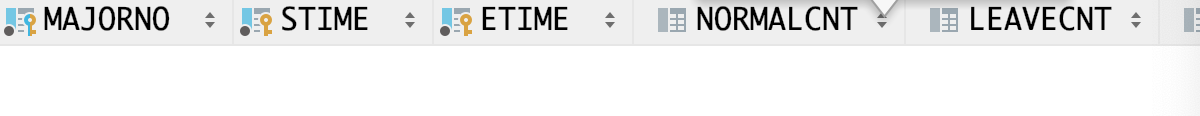
**题目：**建立过程，生成某专业某时段（起、止日期）的考勤汇总表major\_attend中各字段值，并汇总相应专业，将考勤分值的汇总结果写入到major表中的sum\_evaluation中。

*--6．建立过程，生成某专业某时段（起、止日期）的考勤汇总表major\_attend中各字段值，  
-- 并汇总相应专业，将考勤分值的汇总结果写入到major表中的sum\_evaluation中。***create or replace procedure** *P\_Attend\_W125* (pMajorNo **char**, pSTime **date**, pETime **date**)  
**as** pScore **int** := 0;  
**begin  
 insert into** T\_major\_Attend\_W125 **values** (pMajorNo, pSTime, pETime, 0, 0, 0, 0, 0);  
 **for** cur **in** (**select** T\_Attend\_W125.**Status**, *count*(T\_Attend\_W125.**Status**) mStatusCnt, *sum*(**score**) pScore  
 **from** T\_Attend\_W125, T\_scoreOfAllSituation\_W125  
 **where** T\_Attend\_W125.**Status** = T\_scoreOfAllSituation\_W125.**Status  
 and** T\_Attend\_W125.**marjorNo** = pMajorNo  
 **and sDay** >= pSTime **and sDay** <= pETime  
 **group by** T\_Attend\_W125.**Status**)  
 **loop  
 if** cur.**Status** = **'正常' then  
 update** T\_major\_Attend\_W125 **set normalCnt** = cur.mStatusCnt  
 **where majorNo** = pMajorNo **and stime** = pSTime **and eTime** = pETime;  
 **elsif** cur.**Status** = **'请假' then  
 update** T\_major\_Attend\_W125 **set leaveCnt** = cur.mStatusCnt  
 **where majorNo** = pMajorNo **and sTime** = pSTime **and eTime** = pETime;  
 **elsif** cur.**Status** = **'迟到' then  
 update** T\_major\_Attend\_W125 **set lateCnt** = cur.mStatusCnt  
 **where majorNo** = pMajorNo **and sTime** = pSTime **and eTime** = pETime;  
 **elsif** cur.**Status** = **'旷课' then  
 update** T\_major\_Attend\_W125 **set absentCnt** = cur.mStatusCnt  
 **where majorNo** = pMajorNo **and sTime** = pSTime **and eTime** = pETime;  
 **end if**;  
 pScore := pScore + cur.pScore;  
 **end loop**;  
 **update** T\_major\_Attend\_W125 **set score** = pScore  
 **where majorNo** = pMajorNo **and sTime** = pSTime **and eTime** = pETime;  
 **update** T\_MAJOR\_W125 **set sum\_evaluation** = pScore  
 **where MAJORNO** = pMajorNo;  
**end**;

**select** *\** **from** T\_major\_Attend\_W125;  
**select** *\** **from** T\_major\_W125;  
**begin** *P\_Attend\_W125*(**'07'**,**'23-11月-2020'**,**'27-11月-2020'**);  
 *P\_Attend\_W125*(**'09'**,**'23-11月-2020'**,**'27-11月-2020'**);  
 *P\_Attend\_W125*(**'08'**,**'23-11月-2020'**,**'27-11月-2020'**);  
**end**;  
**select** *\** **from** T\_major\_Attend\_W125;  
**select** *\** **from** T\_major\_W125;

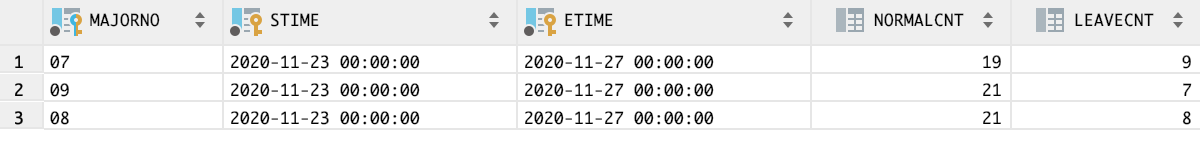
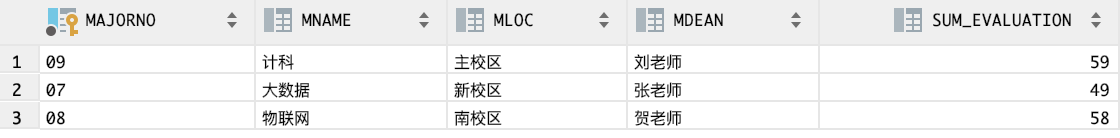
* 测试一下

1. 运行之前





1. 运行之后



# 实验中遇到的问题及解决方案

* 在使用docker搭建实验环境时，忘记做数据持久化，导致实验一的数据丢失

解决方法：临时解决，将本次实验需要的数据插入。因为要做数据持久化的话，就要把数据映射到宿主机，但是一想工程项目又不可能使用docker作为环境，就使用临时解决方法了。