DATABASE SYSTEM LABS - ADVANCED SQL: PROCEDURE

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OBJECTIVES

- Stored Procedure
- Tasks

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```
drop procedure if exists  precourse_cnt_proc;
DELIMITER $$
create procedure precourse_cnt_proc(
in acourseid varchar(8), out acnt integer )
deterministic
reads sql data
begin
  select count(*) into acnt from prereq
  where course_id=acourseid;
end$$
DELIMITER ;
```

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CALL PROCEDURE

- In mysql workbench

```
set @course_id='958';
call precourse_cnt_proc(@course_id,@cnt);
select @cnt as cnt;
```

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CALL PROCEDURE

- In sql functions and procedures

```
declare course_id varchar(10);
declare cnt integer;
select ‘958’ into course_id;
call precourse_cnt_proc(course_id, cnt);
```

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CALL PROCEDURE IN PYTHON3

```
import pymysql
conn = pymysql.connect(host='localhost',
user='mydbuser',password='iammydbuser',database='dblabtest',charset='utf8')
cursor = conn.cursor()
aInCourse_id = '958'
aCnt = -1
cursor.callproc('precourse_cnt_proc',(aInCourse_id,aCnt))
cursor.execute('select @_precourse_cnt_proc_0 as Course_ID,@_precourse_cnt_proc_1 as Cnt')
retdata = cursor.fetchone()
if retdata:
    aCnt = retdata[1]
conn.commit()
cursor.close()
conn.close()
print('The result:%d' %(aCnt))
```

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```
drop procedure if exists  precourse_cnt_proc2;
DELIMITER $$
create procedure precourse_cnt_proc2(
in acourseid varchar(8), out acnt integer )
deterministic
reads sql data
begin
  select count(*) into acnt from prereq  where course_id=acourseid;
  select * from prereq  where course_id=acourseid;
end$$
DELIMITER ;
```

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CALL PROCEDURE IN PYTHON3

```
import pymysql
conn = pymysql.connect(host='localhost',
user='mydbuser',password='iammydbuser',database='dblabtest',charset='utf8')
cursor = conn.cursor()
aInCourse_id = '958'
aCnt = -1
cursor.callproc('precourse_cnt_proc2',(aInCourse_id,aCnt))
retdata1 = cursor.fetchall()
print(retdata1)
cursor.execute('select @_precourse_cnt_proc2_0 as Course_ID,@_precourse_cnt_proc2_1 as Cnt')
retdata2 = cursor.fetchone()
if retdata2:
    aCnt = retdata2[1]
cursor.close()
conn.close()
print('The result:%d' %(aCnt))
```

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LAB

...

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LAB(2)

- 2. 针对prereq表，实现一个Procedure来获取依赖于指定学院开设课程的所有课程
  - 实现一个Procedure
  - 动态输入指定学院
  - 递归获得所有依赖该指定学院课程的课程
  - 客户端采用Python等来调用并显示结果

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