DATABASE SYSTEM LABS – ADVANCED SQL: FUNCTION

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OBJECTIVES

- Stored Function In SQL

```sql
drop function if exists  precourse_cnt_f;
DELIMITER $$
create function precourse_cnt_f(acourseid varchar(8))
returns integer
deterministic
reads sql data
begin
  declare cnt integer;
  select count(*) into cnt from prereq  where course_id=acourseid;
  return cnt;
end$$
DELIMITER ;
```

©LXD

CALL FUNCTION

- In mysql workbench

  set @course_id='958';

  select precourse_cnt_f(@course_id) into @cnt;

  select @cnt;

CALL FUNCTION

- In sql functions and procedures

  declare course_id varchar(10);

  select '958' into course_id;

  select precourse_cnt_f(course_id);

```python
import pymysql

conn = pymysql.connect(host='localhost',
user='mydbuser',password='iammydbuser',database='dblabtest',charset='utf8')

cursor = conn.cursor()

aInCourse_id = '958'

cursor.execute('select precourse_cnt_f(%s)', (aInCourse_id))

retdata = cursor.fetchall()

cnt=0

for row in retdata:

    cnt=cnt+1

    print("%s" %(row[0]))

cursor.close()

conn.close()
```

RETURNS IN FUNCITON

- RETURNS {STRING|INTEGER|REAL|DECIMAL}
- Function does not support returns a dataset (i.e. table)

QUIZ

- 1. 针对prereq表，实现一个Function来获取指定课程course_id的所有依赖课程
  - 实现一个Function
  - 动态输入指定课程ID
  - 递归获得所有依赖的课程
  - 客户端采用Python等来调用并显示结果