

The background is a dark blue gradient with a subtle pattern of small white dots. Overlaid on the left side are several concentric circular patterns and a large circular scale with degree markings from 140 to 260. Some of the circles have arrows indicating a clockwise direction.

DATABASE SYSTEM LABS

- ADVANCED SQL: FUNCTION

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OBJECTIVES

- Stored Function In 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**\$\$**

©LXD DELIMITER ;

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);

CALL FUNCTION IN PYTHON3

```
import pymysql

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

cursor = conn.cursor()
alnCourse_id = '958'
cursor.execute('select precourse_cnt_f(%s)', (alnCourse_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