针对prerea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

MySQL：

drop function if exists course\_id\_prereq\_cnt;

delimiter $$

create function course\_id\_prereq\_cnt(course\_id varchar(8))

returns integer

deterministic

reads sql data

begin

declare cnt integer;

select count(\*) into cnt from prereq where course\_id=prereq.course\_id;

return cnt;

end$$

delimiter ;

select course\_id\_prereq\_cnt('558');

select course\_id\_prereq\_cnt('696');

select course\_id\_prereq\_cnt('958');

set @course\_id='958';

select course\_id\_prereq\_cnt(@course\_id) into @cnt;

select @cnt;

with recursive rec\_prereq(course\_id, prereq\_id) as (

select course\_id, prereq\_id

from prereq

union

select rec\_prereq.course\_id, prereq.prereq\_id

from rec\_prereq, prereq

where rec\_prereq.prereq\_id = prereq.course\_id

)

select \* from rec\_prereq;

Python：

**import** pymysql  
**def** get\_all\_prereqs(course\_id):  
 conn = pymysql.connect(host=**'127.0.0.1'**, user=**'myuser'**, password=**'Lp200211'**, database=**'dbsclab2018'**, charset=**'utf8'**)  
 cursor = conn.cursor()  
 cursor.execute(**'SELECT prereq\_id FROM prereq WHERE course\_id=%s'**, (course\_id,))  
 retdata = cursor.fetchall()  
 cursor.close()  
 conn.close()  
 retlist = []  
 **for** row **in** retdata:  
 retlist.append(row[0])  
 retlist += get\_all\_prereqs(row[0])  
 **return** retlist  
course\_id = **'958'**prereqs = get\_all\_prereqs(course\_id)  
print(**'Course\_id %s has the following prereq\_id:'** % course\_id)  
**for** prereq **in** prereqs:  
 print(**'%s'** % prereq)  
course\_id=input();  
prereqs = get\_all\_prereqs(course\_id)  
print(**'Course\_id %s has the following prereq\_id:'** % course\_id)  
**for** prereq **in** prereqs:  
 print(**'%s'** % prereq)