

The background features a dark blue gradient with faint, light blue circular patterns. On the left side, there are several concentric circles with degree markings ranging from 40 to 260. Some of these circles have arrows indicating a clockwise direction. The overall aesthetic is technical and modern.

DATABASE SYSTEM LABS - SQL & PERFORMANCE TEST

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OBJECTIVES

- Comparing the performance of different SQL queries

PREPARE

- MySQL database server
- Python language
 - Access mysql
 - Timing

PREPARE

- Timing
on
Python3

```
#python3 asscess mysql db
import time
import pymysql
time_start=time.time()
conn = pymysql.connect(host='localhost',
user='mydbuser',password='iammydbuser',database='dblabtest',charset='utf8')
cursor = conn.cursor()
sql = "SELECT ID,name from instructor order by ID"
cursor.execute(sql)
retdata = cursor.fetchall()
print(retdata)
cnt=0
for row in retdata:
    cnt=cnt+1
    myID=row[0]
    myName=row[1]
    print("%d ID:%s\t name:%s" %(cnt, myID, myName))
cursor.close()
conn.close()
time_end=time.time()
time_total=time_end-time_start
print('time cost:',time_total,'s')
```


PREPARE

Github: [sqlperformancetest.sql](#)

```
insert into  
section(course_id,sec_id,semester,year,building,room_number,time_slot_id)  
select course_id,sec_id,'Spring',2019,building,room_number,time_slot_id  
from section as s  
where s.year<2018 and s.course_id>=300
```

commit

<https://github.com/albertleecn/dblabs.git>

commit

PREPARE

Github: [sqlperformancetest.sql](#)

```
insert into
section(course_id,sec_id,semester,year,building,room_number,time_slot_id)
select course_id,sec_id,'Fall',2018,building,room_number,time_slot_id
from section as s
where s.year<2018 and s.course_id>=300
```

commit

REQUIREMENTS

- 1) Present different SQL queries
- 2) Write a python program to verify the correctness of these above queries
- 3) and comparing the performance of these above queries

CASE 1:

```
Select distinct course_id  
From section  
Where semester="Fall" and year=2018 and  
Course_id in (select course_id from section  
where semester="Spring" and year=2019);
```


CASE 2:

```
Select distinct course_id  
From section  
Where semester="Fall" and year=2017 and  
Course_id in (select course_id from section  
where semester="Spring" and year=2019);
```



THANKS!

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