

# ONLY NUMBER: Conger Yang

## PORTFOLIO

### Report and Discussion of the Completed Labs

**4.week5-week6:** Completed DB\_Lab\_04 through practical class explanation and review of courseware 04\_SQL\_Introduction and 05\_SQL\_Rules\_Command. (basic content, few repeated attempts)

**Week5-week6:** The whole section of the assignment is about learning SQL language. The following examples are all completed by Postgresql software in SQL language. In the whole process, there are many attempts for 3 and 4 questions at the beginning (the specific number of attempts is 7 times for 3 questions and 10 times for 4 questions). All other questions are between 1 and 5 times (5 questions average 4 times, 6 questions average 3 times).

### Personal Reflection and Critical

**4.** For me, DB\_Lab\_04 is relatively basic and simple, and the completion process is relatively smooth. This chapter is the basic application of SQL language.

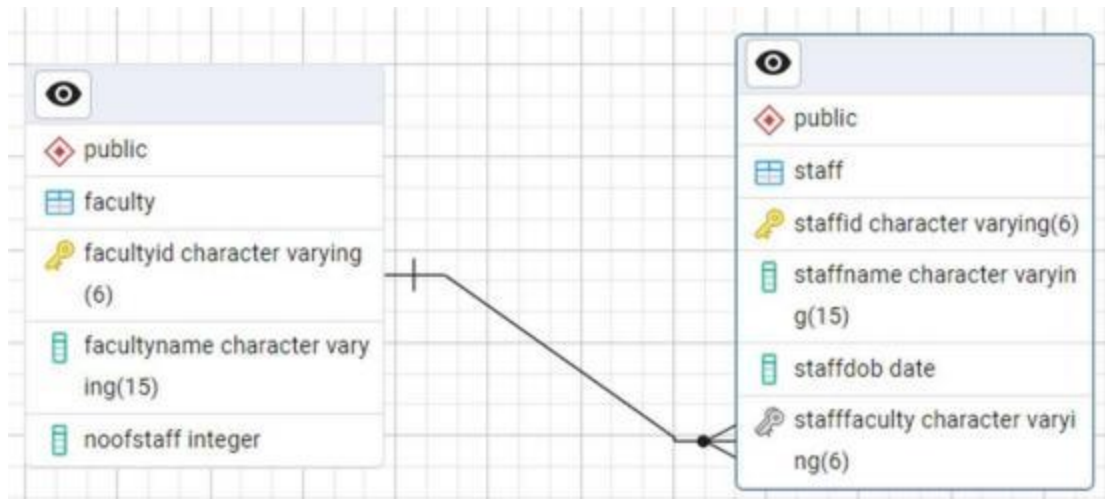
Member Name and student ID (Printed)	Signature
Name:Conger Yang ID:2023020206	

# DB\_Lab\_04

## Only member:Conger Yang

BASIC TASKS:

1.and2.



3.

```
INSERT INTO staff(staffid,staffname,staffdob,stafffaculty) values('AB9872','Mark White',1978-01-01,'M002'), ('DL2314','Jas Singh',1982-03-14,'M002'),('AF4512','Alison Green',1998-12-23,'C001'),('BK2134','Kieran West',1992-01-16,'B001'), ('FG3124','Lucy Liu',1997-08-03,'E002');
```

It is necessary to fill the faculty table first, because it is related to the stafffaculty in the staff table (foreign key in the staff table) and has the faculty primary key first. Only when writing the code of the staff table can the existing faculty primary key be referenced, otherwise an error will be reported

```

hrsystem=# select * from staff;
 staffid |          staffname          | staffdob |
-----+-----+-----
AB9872  | Mark White                  | 1978-01-01 | M002
DL2314  | Jas Singh                   | 1982-03-14 | M002
AF4512  | Alison Green                 | 1998-12-23 | C001
BK2134  | Kieran West                  | 1992-01-16 | B001
FG3124  | Lucy Liu                     | 1997-08-03 | E002
(5 行记录)

hrsystem=# select * from faculty;
 facultyid |          facultyname          | noofstaff
-----+-----+-----
C001      | Computing                     |      120
E002      | Engineering                    |       76
M002      | Mathermatics                  |       56
B001      | Business                      |       89
(4 行记录)

```

## 4.a

```

hrsystem=# select * from staff;
 staffid |          staffname          | staffdob |
-----+-----+-----
AB9872  | Mark White                  | 1978-01-01 | M002
DL2314  | Jas Singh                   | 1982-03-14 | M002
AF4512  | Alison Green                 | 1998-12-23 | C001
BK2134  | Kieran West                  | 1992-01-16 | B001
FG3124  | Lucy Liu                     | 1997-08-03 | E002
(5 行记录)

```

## b.

```

hrsystem=# select * from faculty where noofstaff > 75;
 facultyid |          facultyname          | noofstaff
-----+-----+-----
C001      | Computing                     |      120
E002      | Engineering                    |       76
B001      | Business                      |       89
(3 行记录)

```

C.

```
hrsystem=# select * from staff where staffdob > '1980-1-1';
```

staffid	stafffaculty	staffname	staffdob
DL2314	Jas Singh		1982-03-14   M002
AF4512	Alison Green		1998-12-23   C001
BK2134	Kieran West		1992-01-16   B001
FG3124	Lucy Liu		1997-08-03   E002

4 行记录)

d.

```
hrsystem=# select * from staff;
```

id	name	date of birth	Faculty id
AB9872	Mark White	1978-01-01	M002
DL2314	Jas Singh	1982-03-14	M002
AF4512	Alison Green	1998-12-23	C001
BK2134	Kieran West	1992-01-16	B001
FG3124	Lucy Liu	1997-08-03	E002

e.

```
hrsystem=# select *from staff;
```

id	name	date of birth	Faculty id
AB9872	Mark White	1978-01-01	M002
DL2314	Jas Singh	1982-03-14	M002
AF4512	Alison Green	1998-12-23	C001
BK2134	Kieran West	1992-01-16	B001
FG3124	Lucy Liu	1997-08-03	E002

(5 行记录)

```
hrsystem=# select *from faculty;
```

facultyid	facultyname	noofstaff
E002	Engineering	76
M002	Mathernatics	56
B001	Business	89
C001	Engineering	120

(4 行记录)

F.

```
hrsystem=# select *from staff;
 id | name | date of birth | Faculty id
-----+-----+-----+-----
 AB9872 | Mark White | 1978-01-01 | M002
 DL2314 | Jas Singh | 1982-03-14 | M002
 AF4512 | Alison Green | 1998-12-23 | C001
 FG3124 | Lucy Liu | 1997-08-03 | E002
(4 行记录)
```

```
hrsystem=# select *from faculty;
 facultyid | facultyname | noofstaff
-----+-----+-----
 E002 | Engineering | 76
 M002 | Mathematics | 56
 C001 | Engineering | 120
(3 行记录)
```

6.

a.

```
bank=# select 28964 * 1.85;
?column?
-----
 53583.40
(1 行记录)
```

```
bank=# select 28,964 * 1.85;
?column? | ?column?
-----+-----
      28 | 1783.40
(1 行记录)
```

b.

```
bank=# select first_name,last_name from employee;
first_name | last_name
```

Michael	Smith
Susan	Barker
Robert	Tyler
Susan	Hawthorne
John	Gooding
Helen	Fleming
Chris	Tucker
Sarah	Tucker
Jane	Grossman
Paula	Roberts
Thomas	Ziegler
Samantha	Jameson
John	Blake
Cindy	Mason
Frank	Portman
THERESA	Markham
Beth	Fowler
Rick	Tulman

(18 行记录)

**C.**

```
bank=# select distinct product_type_cd from product;
product_type_cd
```

ACCOUNT
LOAN

(2 行记录)

**d.**

```
bank=# select * from product where product_type_cd='LOAN';
```

product_cd	date_offered	date_retired	name	product_type_cd
MRT	2000-01-01		home mortgage	LOAN
AUT	2000-01-01		auto loan	LOAN
BUS	2000-01-01		business line of credit	LOAN
SBL	2000-01-01		small business loan	LOAN

(4 行记录)

**e.**

```
select * from employee where first_name like 'S%';
```

	emp_id [PK] numeric (10) ↗	end_date date ↗	first_name character varying (20) ↗	last_name character varying (20) ↗	start_date date ↗	title character varying (20) ↗	assigned_branch_id numeric (10) ↗	dept_id numeric (10) ↗	superior_emp_id numeric (10) ↗
1	2	[null]	Susan	Barker	2002-09-12	Vice President		1	3
2	4	[null]	Susan	Hawthorne	2004-04-24	Operations Manager	1	1	3
3	8	[null]	Sarah	Tucker	2002-12-02	Teller	1	1	6
4	12	[null]	Samantha	Jameson	2003-01-08	Teller	2	1	10

f.

select \* from employee where (first\_name like 'S%' OR FIRST\_NAME LIKE 'T%') AND DEPT\_ID=1;

	emp_id [PK] numeric (10) ↗	end_date date ↗	first_name character varying (20) ↗	last_name character varying (20) ↗	start_date date ↗	title character varying (20) ↗	assigned_branch_id numeric (10) ↗	dept_id numeric (10) ↗	superior_emp_id numeric (10) ↗
1	4	[null]	Susan	Hawthorne	2004-04-24	Operations Manager	1	1	3
2	8	[null]	Sarah	Tucker	2002-12-02	Teller	1	1	6
3	12	[null]	Samantha	Jameson	2003-01-08	Teller	2	1	10
4	16	[null]	THERESA	Markham	2001-03-15	Head Teller	4	1	4
5	11	2019-11-01	Thomas	Ziegler	2000-10-23	Teller	2	1	10

g.

select emp\_id,first\_name,last\_name from employee

where(first\_name='Susan'or first\_name='Helen' or first\_name='Paula')

	<b>emp_id</b> [PK] numeric (10) 	<b>first_name</b> character varying (20) 	<b>last_name</b> character varying (20) 
1	2	Susan	Barker
2	4	Susan	Hawthorne
3	6	Helen	Fleming
4	10	Paula	Roberts



**h.**

```
select * from employee where start_date between '2001-01-01' and '2002-12-31'
```

	emp_id [PK] numeric (10) ↗	end_date date ↗	first_name character varying (20) ↗	last_name character varying (20) ↗	start_date date ↗	title character varying (20) ↗	assigned_branch_id numeric (10) ↗	dept_id numeric (10) ↗	superior_emp_id numeric (10) ↗
1	1	[null]	Michael	Smith	2001-06-22	President	1	3	[null]
2	2	[null]	Susan	Barker	2002-09-12	Vice President	1	3	1
3	3	[null]	Robert	Tyler	2002-02-09	Treasurer	1	3	1
4	8	[null]	Sarah	Tucker	2002-12-02	Teller	1	1	6
5	9	[null]	Jane	Grossman	2002-05-03	Teller	1	1	6
6	10	[null]	Paula	Roberts	2002-07-27	Head Teller	2	1	4
7	14	[null]	Cindy	Mason	2002-08-09	Teller	3	1	13
8	16	[null]	THERESA	Markham	2001-03-15	Head Teller	4	1	4
9	17	[null]	Beth	Fowler	2002-06-29	Teller	4	1	16
10	18	[null]	Rick	Tulman	2002-12-12	Teller	4	1	16

i.

select \* from customer where fed\_id like '%-%-%' ;

	cust_id [PK] numeric (10) ↗	address character varying (30) ↗	city character varying (20) ↗	cust_type_cd character varying (1) ↗	fed_id character varying (12) ↗	postal_code character varying (10) ↗	state character varying (20) ↗
1	9	29 Maple St	Newton	I	999-99-9999	2458	MA
2	8	472 Freedom Rd	Salem	I	888-88-8888	3079	NH
3	7	29 Admiral Ln	Wilmington	I	777-77-7777	1887	MA
4	6	12 Blaylock Ln	Waltham	I	666-66-6666	2451	MA
5	4	12 Bunchanan LN	Waltham	I	444-44-4444	2451	MA
6	3	18 Jessup Rd	Quincy	I	333-33-3333	2169	MA
7	2	372 Clearwater Blvd	Woburn	I	222-22-2222	1801	MA
8	1	47 Mockingbird Ln	Lynnfield	I	111-11-1111	1940	MA

j.

```
select * from product order by product_type_cd asc,name desc;
```

	product_cd [PK] character varying (10)	date_offered date	date_retired date	name character varying (50)	product_type_cd character varying (255)
1	SAV	2000-01-01	[null]	savings account	ACCOUNT
2	MM	2000-01-01	[null]	money market account	ACCOUNT
3	CHK	2000-01-01	[null]	checking account	ACCOUNT
4	CD	2000-01-01	[null]	certificate of deposit	ACCOUNT
5	SBL	2000-01-01	[null]	small business loan	LOAN
6	MRT	2000-01-01	[null]	home mortgage	LOAN
7	BUS	2000-01-01	[null]	business line of credit	LOAN
8	AUT	2000-01-01	[null]	auto loan	LOAN

k.

select \*from employee where title='Teller' order by start\_date desc;

	emp_id [PK] numeric (10)	end_date date	first_name character varying (20)	last_name character varying (20)	start_date date	title character varying (20)	assigned_branch_id numeric (10)	dept_id numeric (10)	superior_emp_id numeric (10)
1	7	[null]	Chris	Tucker	2004-09-15	Teller		1	1
2	15	[null]	Frank	Portman	2003-04-01	Teller	3	1	13
3	12	[null]	Samantha	Jameson	2003-01-08	Teller	2	1	10
4	18	[null]	Rick	Tulman	2002-12-12	Teller	4	1	16
5	8	[null]	Sarah	Tucker	2002-12-02	Teller	1	1	6
6	14	[null]	Cindy	Mason	2002-08-09	Teller	3	1	13
7	17	[null]	Beth	Fowler	2002-06-29	Teller	4	1	16
8	9	[null]	Jane	Grossman	2002-05-03	Teller	1	1	6
9	11	2019-11-01	Thomas	Ziegler	2000-10-23	Teller	2	1	10

OR

select max(start\_date) from employee where title='Teller' ;

	max date
1	2004-09-15

I.


```
UPDATE ACCOUNT SET AVAIL_BALANCE=AVAIL_BALANCE *  
1.02,PENDING_BALANCE=PENDING_BALANCE *1.02 WHERE CUST_ID=1;  
SELECT ACCOUNT_ID,PRODUCT_CD,AVAIL_BALANCE,PENDING_BALANCE FROM ACCOUNT WHERE  
CUST_ID=1;
```

M.

SELECT COUNT(\*) FROM ACC\_TRANSACTION WHERE TXN\_DATE='2003/07/30'




	count bigint	
1		2

delete from acc\_transaction where txn\_date='2003/07/30';  
SELECT COUNT(\*) FROM ACC\_TRANSACTION WHERE TXN\_DATE='2003/07/30';

	count bigint	
1		0

# N.

select account\_id,cust\_id,avail\_balance from account where avail\_balance>10000 order by  
avail\_balance desc;

	<b>account_id</b> [PK] integer 	<b>cust_id</b> numeric (10) 	<b>avail_balance</b> numeric (14,2) 
1	23	12	50000.00
2	22	12	38552.05
3	20	10	23575.12

# O.

select distinct city,state from customer where state='NH' order by city asc;

	city character varying (20) 🔒	state character varying (20) 🔒
1	Salem	NH
2	Wilmington	NH



p.

```
update individual set last_name='Brown' where cust_id=2;  
select * from individual order by cust_id asc;
```

	<b>cust_id</b> [PK] integer	<b>birth_date</b> date	<b>first_name</b> character varying (255)	<b>last_name</b> character varying (255)
1	1	1972-04-22	James	Hadley
2	2	1968-08-15	Susan	Brown
3	3	1958-02-06	Frank	Tucker
4	4	1966-12-22	John	Hayward
5	5	1971-08-25	Charles	Frasier
6	6	1962-09-14	John	Spencer
7	7	1947-03-19	Margaret	Young
8	8	1977-07-01	Louis	Blake
9	9	1968-06-16	Richard	Farley

q.

**select \* from individual where birth\_date>'1968/01/01';**

	cust_id [PK] integer	birth_date date	first_name character varying (255)	last_name character varying (255)
1	1	1972-04-22	James	Hadley
2	5	1971-08-25	Charles	Frasier
3	8	1977-07-01	Louis	Blake
4	9	1968-06-16	Richard	Farley
5	2	1968-08-15	Susan	Brown

r.

```
update employee set end_date='2019/11/1' where first_name='Thomas' and last_name='Ziegler';  
select * from employee where first_name='Thomas' and last_name='Ziegler'
```

	emp_id [PK] numeric (10)	end_date date	first_name character varying (20)	last_name character varying (20)	start_date date	title character varying (20)	assigned_branch_id numeric (10)	dept_id numeric (10)	superior_emp_id numeric (10)
1	11	2019-11-01	Thomas	Ziegler	2000-10-23	Teller	2	1	10

s.

```
select * from account where product_cd='SAV' order by avail_balance desc;
```

	account_id [PK] integer	avail_balance numeric (14,2)	close_date date	last_activity_date date	open_date date	pending_balance numeric (14,2)	status character varying (10)	cust_id numeric (10)	open_branch_id numeric (10)	open_emp_id numeric (10)	product_cd character varying (10)
1	9	767.77	[null]	2004-10-24	2000-01-15	767.77	ACTIVE	4	1	8	SAV
2	2	530.60	[null]	2005-12-19	2001-01-15	530.60	ACTIVE	1	2	10	SAV
3	16	387.99	[null]	2004-10-12	2001-05-23	387.99	ACTIVE	8	4	18	SAV
4	5	200.00	[null]	2004-12-11	2001-03-12	200.00	ACTIVE	2	2	11	SAV

