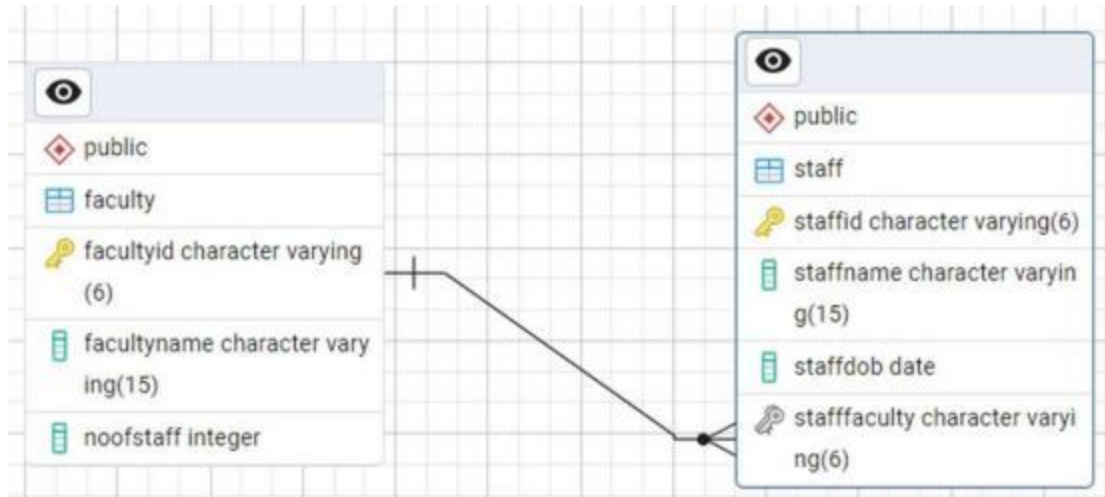# ONLY NUMBER: Conger Yang

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  |
         stafffaculty
---------+------------------------------------+------------+------------
 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  |
         stafffaculty
---------+------------------------------------+------------+------------
 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 |                staffname                 |  staffdob  |
         stafffaculty
---------+------------------------------------------+------------+----------
---------------------------------------------------------
 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      | Mathematics                           |        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      | Hawthrone
 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	1
2	4	[null]	Susan	Hawthrone	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	Hawthrone	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')

	emp_id [PK] numeric (10)	first_name character varying (20)	last_name character varying (20)
1	2	Susan	Barker
2	4	Susan	Hawthrone
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 Blaylcok 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	6
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;

	account_id [PK] integer	cust_id numeric (10)	avail_balance 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;
```

	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	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