Only Number：Conger Yang

BASIC TASK

1. In total, how many transactions have been carried out at the bank?

select count(CHK) from acc_transaction

	count bigint
1	21

2.How many accounts of type 'CHK' are there at this bank?

select count(*) from account where product_cd='CHK'

	count bigint
1	10

3.Produce a list of job titles and how many employees hold this position.

select first_name,last_name,name from employee inner join department on employee.dept_id=department.dept_id;

	first_name character varying (20)	last_name character varying (20)	name character varying (20)
1	Michael	Smith	Administration
2	Susan	Barker	Administration
3	Robert	Tyler	Administration
4	Susan	Hawthrone	Operations
5	John	Gooding	Loans
6	Helen	Fleming	Operations
7	Chris	Tucker	Operations
8	Sarah	Tucker	Operations
9	Jane	Grossman	Operations
10	Paula	Roberts	Operations
11	Samantha	Jameson	Operations
12	John	Blake	Operations
13	Cindy	Mason	Operations
14	Frank	Portman	Operations
15	THERESA	Markham	Operations

16	Beth	Fowler	Operations
17	Rick	Tulman	Operations
18	Thomas	Ziegler	Operations

4.Produce a list of Customers and the number of accounts they have.

select (avail_balance + pending_balance) AS ACCOUNT_SUM from account;

	account_sum numeric
1	1068.24
2	1535.54
3	10974.18
4	20000.00
5	10000.00
6	6974.38
7	775.98
8	251.34
9	19691.10
10	3000.00
11	47150.24
12	0.00
13	77104.10
14	100000.00
15	244.74
16	4516.04
17	400.00
18	2115.50
19	4335.00
20	4475.94
21	2245.00
22	1061.20
23	6367.24

5.

select sum(avail_balance) from account where cust_id=1

	sum numeric
1	4836.72

6. select sum(avail_balance), cust_id from account group by cust_id order by cust_id asc;

	sum numeric	cust_id numeric (10)
1	4836.72	1
2	2458.02	2
3	3180.25	3
4	6788.98	4
5	2237.97	5
6	10122.37	6
7	5000.00	7
8	3875.18	8
9	11471.22	9
10	23575.12	10
11	88552.05	12

7. Write a query to list all account product types and the average available balance for each type

select PRODUCT_CD AS "Account Type",AVG(avail_balance) as "average data" from account group by product_cd;

	Account Type character varying (10)	average data numeric
1	CHK	7307.2760000000000000
2	SBL	50000.000000000000
3	MM	5818.3800000000000000
4	SAV	471.5900000000000000
5	CD	4920.9050000000000000
6	BUS	0.000000000000000000

MEDIUM TASKS

8.

select sum(AVAIL_BALANCE) FROM ACCOUNT WHERE OPEN_BRANCH_ID=2;

	sum numeric
1	12294.74

9.

select product_cd, max(avail_balance) from account group by product_cd;

	product_cd character varying (10)	max numeric
1	CHK	38552.05
2	SBL	50000.00
3	MM	9845.55
4	SAV	767.77
5	CD	10000.00
6	BUS	0.00

10.

select product_cd, min(avail_balance)as min_avail_balance from account group by product_cd;

	product_cd character varying (10)	min_avail_balance numeric
1	CHK	122.37
2	SBL	50000.00
3	MM	2122.50
4	SAV	200.00
5	CD	1500.00
6	BUS	0.00

11.

select cust_id, ROUND(sum(avail_balance))as min_avail_balance from account group by CUST_ID ORDER BY CUST_ID ASC;

	cust_id numeric (10)	min_avail_balance numeric
1	1	4837
2	2	2458
3	3	3180
4	4	6789
5	5	2238
6	6	10122
7	7	5000
8	8	3875
9	9	11471
10	10	23575
11	12	88552

12.

a.

SELECT LAST_NAME ||' '|| FIRST_NAME AS EMP_NAME FROM EMPLOYEE;

	emp_name text
1	Smith Michael
2	Barker Susan
3	Tyler Robert
4	Hawthrone Susan
5	Gooding John
6	Fleming Helen
7	Tucker Chris
8	Tucker Sarah
9	Grossman Jane
10	Roberts Paula
11	Jameson Samantha
12	Blake John
13	Mason Cindy
14	Portman Frank
15	Markham THERESA
16	Fowler Beth
17	Tulman Rick
18	Ziegler Thomas

b.

SELECT LAST_NAME ||' '|| FIRST_NAME ||' position is '|| title as emp_infor FROM EMPLOYEE;

	emp_infor text
1	Smith Michael position is President
2	Barker Susan position is Vice President
3	Tyler Robert position is Treasurer
4	Hawthrone Susan position is Operations Manager
5	Gooding John position is Loan Manager
6	Fleming Helen position is Head Teller
7	Tucker Chris position is Teller
8	Tucker Sarah position is Teller
9	Grossman Jane position is Teller
10	Roberts Paula position is Head Teller
11	Jameson Samantha position is Teller
12	Blake John position is Head Teller
13	Mason Cindy position is Teller
14	Portman Frank position is Teller
15	Markham THERESA position is Head Teller
16	Fowler Beth position is Teller
17	Tulman Rick position is Teller
18	Ziegler Thomas position is Teller

ADVANCED TASKS

13.

SELECT REPLACE('Fear leads to anger; anger leads to hatred; hatred leads to conflict; conflict leads to suffering', 'anger', 'panic buying') AS modified_text;

	modified_text text
1	Fear leads to panic buying; panic buying leads to hatred; hatred leads to conflict; conflict leads to suffe…

14.

update customer set fed_id=replace(fed_id,'-','');

	cust_id [PK] numeric (10)	address character varying (30)	city character varying (20)	cust_type_cd character varying (1)	fed_id character varying
1	5	2341 Main St	Salem	I	
2	11	287a Corporate Ave	Wilmington	B	042222222
3	12	789 Main St	Salem	B	043333333
4	13	4772 Presidential	Quincy	B	044444444
5	10	7 Industiral Way	Wilmington	B	041111111
6	9	29 Maple St	Newton	I	999999999
7	8	472 Freedom Rd	Salem	I	888888888
8	7	29 Admiral Ln	Wilmington	I	777777777
9	6	12 Blaylcok Ln	Waltham	I	666666666
10	4	12 Bunchanan LN	Waltham	I	444444444
11	3	18 Jessup Rd	Quincy	I	333333333
12	2	372 Clearwater Blvd	Woburn	I	222222222
13	1	47 Mockingbird Ln	Lynnfield	I	111111111

15.

select extract(year from txn_date) ||' '|| count(extract(year from txn_date)) as YearCount from acc_transaction group by extract(year from txn_date) order by extract(year from txn_date) asc ;

	yearcount text
1	2000 3
2	2001 4
3	2002 4
4	2003 3
5	2004 7

16.

1) update employee set title=upper(title) ;
2) update employee set title =case when title='TELLER' THEN 'CASHIER'

WHEN TITLE='HEAD TELLER' THEN 'CASHIER' ELSE TITLE END WHERE TITLE IN('TELLER','HEAD TELLER');

3) SELECT COUNT(TITLE) ||' '|| TITLE AS "COUNT JOBTITLE" FROM EMPLOYEE GROUP BY TITLE;

title character varying (20)
PRESIDENT
VICE PRESIDENT
TREASURER
OPERATIONS MANAGER
LOAN MANAGER
HEAD TELLER
TELLER
TELLER
TELLER
HEAD TELLER
TELLER
HEAD TELLER
TELLER
TELLER
HEAD TELLER

1)

title character varying (20)
PRESIDENT
VICE PRESIDENT
TREASURER
OPERATIONS MANAGE
LOAN MANAGER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER
CASHIER

2)

	COUNT JOBTITLE text
1	1 VICE PRESIDENT
2	1 OPERATIONS MANAGER
3	1 LOAN MANAGER
4	1 TREASURER
5	13 CASHIER
6	1 PRESIDENT

3)

17.

select c.*,sum(a.AVAIL_BALANCE) as sumavail_balance from customer c,account a where c.cust_id=a.cust_id GROUP BY c.CUST_ID having SUM(AVAIL_BALANCE)<5000 order by cust_id asc;

cust_id [PK] numeric (10)	address character varying (30)	city character varying (20)	cust_type_cd character varying (1)	fed_id character varying (
1	47 Mockingbird Ln	Lynnfield	I	111111111
2	372 Clearwater Blvd	Woburn	I	222222222
3	18 Jessup Rd	Quincy	I	333333333
5	2341 Main St	Salem	I	
8	472 Freedom Rd	Salem	I	888888888

pe_cd ter varying (1)	fed_id character varying (12)	postal_code character varying (10)	state character varying (20)	sumavail_balance numeric
	111111111	1940	MA	4836.72
	222222222	1801	MA	2458.02
	333333333	2169	MA	3180.25
		3079	NH	2237.97
	888888888	3079	NH	3875.18

18.

select b.branch_id,b.name,count(e.ASSIGNED_BRANCH_ID)as numbercount from branch b,employee e where b.BRANCH_ID=e.ASSIGNED_BRANCH_ID group by e.ASSIGNED_BRANCH_ID, b.branch_id order by branch_id asc;

	branch_id [PK] numeric (10)	name character varying (20)	numbercount bigint
1	1	Headquarters	9
2	2	Woburn Branch	3
3	3	Quincy Branch	3
4	4	So.NH Branch	3

19.

select count(a.product_cd),p.name from account a,product p where p.product_cd=a.product_cd and a.product_cd IN ('CHK', 'SAV') group by p.name,a.product_cd ;

	count bigint	name character varying (50)
1	10	checking account
2	4	savings account

```
-- select count(*) from account where product_cd='CHK'
-- table employee
-- table department
-- select first_name,last_name,name from employee inner join department on employee.dept_id=department.dept_id;
-- TABLE CUSTOMER
-- SELECT * FROM ACCOUNT ORDER BY ACCOUNT_ID ASC;
-- TABLE ACCOUNT
-- SELECT* FROM CUSTOMER INNER JOIN COUNT(ACCOUN_ID) FROM ACCOUNT ON CUSTOMER.CUST_ID=ACCOUNT.CUST_ID
-- select customer.*,account_count.num_accounts from customer left join(select cust_id,count(account_id) as num_accounts
-- from account group by cust_id) as account_count on customer.cust_id=account_count.cust_id
-- select customer
-- table individual

-- select individual.*,account_count.sum_accounts from individual left join(select cust_id ((pending balance + avail_balance) as sum_accunts) from account group by cust_id)as account_count on customer.cust_id=account_count.cust_id
-- select customer
-- table branch
-- select avail_balance branch.name from account and where branch.branch_name='Woburn Branch' inner join branch on branch.branch_id=account.open_branch_id;
-- select sum(avail_balance) from account where cust_id=1
-- select sum(avail_balance), cust_id from account group by cust_id order by cust_id asc;
select PRODUCT_CD,AVG(avail_balance) from account group by product_cd;
SELECT 'AVG(avail_balance)' AS 'average available balance for each type'
```

```
select PRODUCT_CD AS "Account Type",AVG(avail_balance) as "average data" from account
group by product_cd;
```