

-22AIE303- DATABASE MANAGEMENT SYSTEMS

Labsheet 3

	deptno [PK] integer	dname character varying (14)	loc character varying (20)
1	10	ACCOUNTING	NEW YORK
2	20	Research	DALLAS
3	30	SALES	CHICAGO
4	40	OPERATIONS	BOSTON

	empno [PK] integer	ename character varying (20)	job character varying (10)	mgr_id integer	hire_date date	basic_sal numeric (6,2)	incentive numeric (6,2)	deptno integer
1	7369	Smith	Clerk	7902	1980-12-17	6800.00	[null]	20
2	7499	Allen	Salesman	7698	1981-02-20	1160.00	300.00	30
3	7521	Ward	Salesman	7698	1981-02-22	1125.00	500.00	30
4	7566	Jones	Manager	7839	1981-04-02	2297.00	[null]	20
5	7654	Martin	Salesman	7698	1981-09-28	1125.00	1124.00	30
6	7698	Blake	Manager	7839	1981-05-01	2285.00	[null]	30
7	7782	Clark	Manager	7839	1981-06-09	2245.00	[null]	10
8	7788	Scott	Analyst	7566	1982-12-09	1300.00	[null]	20

1. Create a table Department_locn with fields deptno and location where both are its primary keys and deptno references Department table.

create table Department_locn (deptno integer references department(deptno), location varchar(20), primary key(deptno, location));

select * from Department_locn;

deptno [PK] integer	location [PK] character varying (20)

2. Change the empno of the employee whose name is 'Meena'.

update employee set empno= 5 where ename = 'Meena';

select * from employee;

	empno [PK] integer	ename character varying (20)	job character varying (10)	mgr_id integer	hire_date date	basic_sal numeric (6,2)	incentive numeric (6,2)	deptno integer
1	7369	Smith	Clerk	7902	1980-12-17	6800.00	[null]	20
2	7499	Allen	Salesman	7698	1981-02-20	1160.00	300.00	30
3	7521	Ward	Salesman	7698	1981-02-22	1125.00	500.00	30
4	7566	Jones	Manager	7839	1981-04-02	2297.00	[null]	20
5	7654	Martin	Salesman	7698	1981-09-28	1125.00	1124.00	30
6	7698	Blake	Manager	7839	1981-05-01	2285.00	[null]	30
7	7782	Clark	Manager	7839	1981-06-09	2245.00	[null]	10
8	7788	Scott	Analyst	7566	1982-12-09	1300.00	[null]	20

3. Drop the column DOB from Employee.

alter table employee drop column hired_date;

select * from employee;

	empno [PK] integer	ename character varying (20)	job character varying (10)	mgr_id integer	basic_sal numeric (6,2)	incentive numeric (6,2)	deptno integer
1	7369	Smith	Clerk	7902	6800.00	[null]	20
2	7499	Allen	Salesman	7698	1160.00	300.00	30
3	7521	Ward	Salesman	7698	1125.00	500.00	30
4	7566	Jones	Manager	7839	2297.00	[null]	20
5	7654	Martin	Salesman	7698	1125.00	1124.00	30
6	7698	Blake	Manager	7839	2285.00	[null]	30
7	7782	Clark	Manager	7839	2245.00	[null]	10
8	7788	Scott	Analyst	7566	1300.00	[null]	20

4. Retrieve information of departments with deptno 1, 4, 8

select * from Department where deptno in (1, 4, 8);

deptno [PK] integer	dname character varying (14)	loc character varying (20)

5. Show the different salaries of employees eliminating duplicate values.

select distinct basic_sal from employee;

	basic_sal numeric (6,2)
1	2245.00
2	2285.00
3	1300.00
4	1125.00
5	2297.00
6	1160.00
7	6800.00

6. Show details of the department sorted by department number.

```
select * from Department order by deptno;
```

	deptno [PK] integer	dname character varying (14)	loc character varying (20)
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7. Create a table emp having three fields empno, empname and salary from the source table employee . The table emp should not have any records.

```
create table emp as select empno, ename, basic_sal from employee with no data;
```

```
select * from emp;
```

empno integer	ename character varying (20)	basic_sal numeric (6,2)
------------------	---------------------------------	----------------------------

8. Insert data into emp using employee as the source of data.

```
Insert into emp select empno, ename, basic_sal from employee;
```

```
select * from emp;
```

	empno integer	ename character varying (20)	basic_sal numeric (6,2)
1	7369	Smith	6800.00
2	7499	Allen	1160.00
3	7521	Ward	1125.00
4	7566	Jones	2297.00
5	7654	Martin	1125.00
6	7698	Blake	2285.00
7	7782	Clark	2245.00
8	7788	Scott	1300.00

9. Add a column joindate to employee table.

alter table employee add column join_date date;

select * from employee;

	empno [PK] integer	ename character varying (20)	job character varying (10)	mgr_id integer	basic_sal numeric (6,2)	incentive numeric (6,2)	deptno integer	join_date date
1	7369	Smith	Clerk	7902	6800.00	[null]	20	[null]
2	7499	Allen	Salesman	7698	1160.00	300.00	30	[null]
3	7521	Ward	Salesman	7698	1125.00	500.00	30	[null]
4	7566	Jones	Manager	7839	2297.00	[null]	20	[null]
5	7654	Martin	Salesman	7698	1125.00	1124.00	30	[null]
6	7698	Blake	Manager	7839	2285.00	[null]	30	[null]
7	7782	Clark	Manager	7839	2245.00	[null]	10	[null]
8	7788	Scott	Analyst	7566	1300.00	[null]	20	[null]

10. Drop primary key from department.

alter table department drop constraint department_pkey cascade;

select * from department;

	deptno integer	dname character varying (14)	loc character varying (20)
1	10	ACCOUNTING	NEW YORK
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11. Display names of employees whose name begins with 'm' and has 2 'e's

select ename from employee where ename like 'm%e%e%';

ename
character varying (20)

12. Display names of employees whose name begins with 'm' and salary > 10000.

select ename from employee where ename like 'M%' and basic_sal > 1000;

ename
character varying (20)
1 Martin

13. Give the number of employees whose salary is greater than 2000.

select count(*) from employee where basic_sal>2000;

count
bigint
1 4

14. Arrange the employees by their department numbers.

select * from employee order by deptno;

	empno [PK] integer	ename character varying (20)	job character varying (10)	mgr_id integer	basic_sal numeric (6,2)	incentive numeric (6,2)	deptno integer	join_date date
1	7782	Clark	Manager	7839	2245.00	[null]	10	[null]
2	7369	Smith	Clerk	7902	6800.00	[null]	20	[null]
3	7566	Jones	Manager	7839	2297.00	[null]	20	[null]
4	7788	Scott	Analyst	7566	1300.00	[null]	20	[null]
5	7654	Martin	Salesman	7698	1125.00	1124.00	30	[null]
6	7698	Blake	Manager	7839	2285.00	[null]	30	[null]
7	7521	Ward	Salesman	7698	1125.00	500.00	30	[null]
8	7499	Allen	Salesman	7698	1160.00	300.00	30	[null]

15. Display the department number along with number of employees in each department.

select deptno, count(*) from employee group by deptno;

	deptno integer	count bigint
1	30	4
2	10	1
3	20	3

16. Find the departments having more than 10 employees.

```
select deptno from employee group by deptno having count(*) > 10;
```

deptno integer

Question 2

Do all the questions we discussed in the class based on set operations.

```
create table customer(cno int primary key,
                    cname varchar(30),
                    ctype varchar(10));
```

```
create table cust_fd(cno int references customer(cno),
                    fd_no int primary key,
                    fd_amt numeric(50),
                    int_rate numeric(50));
```

```
create table cust_loan(cno int references customer(cno),
                      ln_no int primary key,
                      ln_type varchar,
```

```
ln_amt numeric);
```

```
create table emp_details(cno int references customer(cno),  
    ename varchar,  
    sal numeric,  
    br_no int);
```

```
create table account(acc_no int primary key,  
    cno int references customer(cno),  
    veri_emp_no int,  
    acc_type varchar);
```

```
INSERT INTO customer (cno, cname, ctype) VALUES
```

```
(1, 'John Doe', 'Premium'),  
(2, 'Jane Smith', 'Basic'),  
(3, 'Alice Johnson', 'Premium'),  
(4, 'Bob Brown', 'Basic'),  
(5, 'Charlie Adams', 'Premium'),  
(6, 'Diana Clark', 'Basic'),  
(7, 'Evan Taylor', 'Premium'),  
(8, 'Fiona Lewis', 'Basic'),  
(9, 'George Martin', 'Premium'),  
(10, 'Hannah Scott', 'Basic');
```

```
INSERT INTO cust_fd (cno, fd_no, fd_amt, int_rate) VALUES
```

```
(1, 1001, 50000, 4.5),  
(2, 1002, 75000, 5.0),
```

(3, 1003, 60000, 4.8),
(4, 1004, 80000, 5.2),
(5, 1005, 55000, 4.7),
(6, 1006, 45000, 5.1),
(7, 1007, 95000, 4.9),
(8, 1008, 105000, 5.3),
(9, 1009, 62000, 4.6),
(10, 1010, 78000, 5.4);

INSERT INTO cust_loan (cno, ln_no, ln_type, ln_amt) VALUES

(1, 2001, 'Home Loan', 250000),
(2, 2002, 'Personal Loan', 50000),
(3, 2003, 'Car Loan', 120000),
(4, 2004, 'Education Loan', 30000),
(5, 2005, 'Home Loan', 270000),
(6, 2006, 'Car Loan', 150000),
(7, 2007, 'Personal Loan', 80000),
(8, 2008, 'Business Loan', 500000),
(9, 2009, 'Education Loan', 45000),
(10, 2010, 'Personal Loan', 100000);

INSERT INTO emp_details (cno, ename, sal, br_no) VALUES

(1, 'Mark Spencer', 55000, 101),
(2, 'Lucy Martin', 60000, 102),
(3, 'John David', 52000, 103),
(4, 'Emily White', 58000, 104),
(5, 'Michael James', 61000, 105),


```
(6, 'Sophia King', 54000, 106),  
(7, 'Oliver Green', 57000, 107),  
(8, 'Amelia Turner', 62000, 108),  
(9, 'Mason Lee', 51000, 109),  
(10, 'Isabella Wright', 53000, 110);
```

```
INSERT INTO account (acc_no, cno, veri_emp_no, acc_type) VALUES
```

```
(3001, 1, 1, 'Savings'),  
(3002, 2, 2, 'Current'),  
(3003, 3, 3, 'Savings'),  
(3004, 4, 4, 'Current'),  
(3005, 5, 5, 'Savings'),  
(3006, 6, 6, 'Current'),  
(3007, 7, 7, 'Savings'),  
(3008, 8, 8, 'Current'),  
(3009, 9, 9, 'Savings'),  
(3010, 10, 10, 'Current');
```

a)List the customer number of those customers who have got both loan and fd at the bank

```
select cno from cust_fd intersect select cno from cust_loan
```

b)List the customer number of those customers who have got either loan or fd at the bank

```
select cno from cust_fd union select cno from cust_loan
```

c)List the customer number of those customers who have got FD but not loan at the bank Insert customer details for those who have FD but no loan

```
INSERT INTO customer (cno, cname, ctype) VALUES
```

```
(11, 'Ivy Cole', 'Premium'),
```

(12, 'Jackie Ford', 'Basic'),

(13, 'Kyle Evans', 'Premium');

d) Insert customers with FD but no loan Assume customer numbers 11, 12, and 13 have FD but no loan

INSERT INTO cust_fd (cno, fd_no, fd_amt, int_rate) VALUES

(11, 1011, 85000, 4.6),

(12, 1012, 70000, 4.8),

(13, 1013, 92000, 5.1);

select cno from cust_fd except select cno from cust_loan;