

## practice DQL statement

Write SQL statement for the following

1. To find all managers with salary >1500

```
SQL> select * from emp where sal >1500 and mgr=7839;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JONES	MANAGER	7839	02-APR-81	2975		
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		
7782	CLARK	MANAGER	7839	09-JUN-81	2450		

```
SQL> select * from emp where sal>1500 and job = 'MANAGER';
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10

2. list all employees with sal >1200 and < 2000

```
SQL> select * from emp where sal between 1200 and 2000;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500		
7934	MILLER	CLERK	7782	23-JAN-82	1300		

3. list all employees with sal is 1600 or sal is 800 or sal is 1900

```
SQL> select * from emp where sal in (1600,800,1900);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30

4. list all employees with R at second last position in name

```
SQL> select * from emp where REGEXP_LIKE(ename,'R.$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7902	FORD	ANALYST	7566	03-DEC-81	3000		20

5. List all employees with name starts with A and ends with N

```
SQL> select * from emp where REGEXP_LIKE(ename, '^A.*N$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30

Q2. Solve following

- list all employees with salary > 1250 and dept no=30

```
SQL> select * from emp where sal>=1250 and deptno=30;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30

- list all employees with salary >=1250 and <= 3000

```
SQL> select * from emp where sal between 1250 and 3000;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

- list all employees with salary >1250 and < 3000

```
SQL> select * from emp where sal>1250 and sal <3000;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

- list all employees with salary either equal to 3000 or 1250 or 2500

```
SQL> select * from emp where sal in (3000,1250,2500);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7902	FORD	ANALYST	7566	03-DEC-81	3000		20

- list all employee with name=SMITH

```
SQL> select * from emp where ename='SMITH';
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20

6. list all employees with name starting with S

```
SQL> select * from emp where REGEXP_LIKE(ename,'^S');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20

7. list all employees with name ending with S

```
SQL> select * from emp where REGEXP_LIKE(ename,'S$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30

8. list all employees with name contains I at 2nd position

```
SQL> select * from emp where REGEXP_LIKE(ename,'^..I');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT		17-NOV-81	5000		10
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

9. list all employees with name starts with A ends with N and somewhere in between L is there

```
SQL> select * from emp where REGEXP_LIKE(ename,'^A.*L.*N$');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30

10. list all employees with name starts with A and B at 3 rd position and P at second last position

```
SQL> select * from emp where REGEXP_LIKE(ename,'^A.B.*P.$');
```

no rows selected

11. List all employees with name starts with either A or starts with S or starts with W

```
SQL> select * from emp where REGEXP_LIKE(ename,'^A|^S|^W');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20

### practice Aggregate functions

12. find max sal and min sal for each job

```
SQL> select job,max(sal), min(sal) from emp group by job;
```

JOB	MAX(SAL)	MIN(SAL)
CLERK	1300	800
SALESMAN	1600	1250
PRESIDENT	5000	5000
MANAGER	2975	2450
ANALYST	3000	3000

13. find how many employees have not received commission

```
SQL> select count(*) from emp where comm is null;
```

COUNT(*)
10

14. find sum of sal of all employees working in dept no 10

```
SQL> select sum(sal) from emp where deptno=10;
```

SUM(SAL)
8750

15. find maximum salary,average sal for each job in every department

```
SQL> select job,deptno,max(sal),avg(sal) from emp group by job,deptno;
```

JOB	DEPTNO	MAX(SAL)	AVG(SAL)
MANAGER	20	2975	2975
PRESIDENT	10	5000	5000
CLERK	10	1300	1300
SALESMAN	30	1600	1400
ANALYST	20	3000	3000
MANAGER	30	2850	2850
MANAGER	10	2450	2450
CLERK	30	950	950
CLERK	20	1100	950

16. find max salary for every department if deptno is > 15 and arrange data in deptno order.

```
SQL> select deptno,max(sal) from emp group by deptno having deptno>15 order by deptno;
```

DEPTNO	MAX(SAL)
20	3000
30	2850

17. find sum salary for every department if sum is > 3000

```
SQL> select deptno,sum(sal) from emp group by deptno having sum(sal)>3000;
```

DEPTNO	SUM(SAL)
30	9400
20	10875
10	8750

18. list all department which has minimum 5 employees

```
SQL> select deptno, count(ename) from emp group by deptno having count(ename)>=5;
```

DEPTNO	COUNT(ENAME)
30	6
20	5

19. count how many employees earn salary more than 2000 in each job

```
SQL> select job, count(ename) from emp where sal > 2000 group by job;
```

JOB	COUNT(ENAME)
PRESIDENT	1
MANAGER	3
ANALYST	2

20. list all enames and jobs in small case letter

```
SQL> select lower(ename) Names, lower(job) Designation from emp;
```

NAMES	DESIGNATI
smith	clerk
allen	salesman
ward	salesman
jones	manager
martin	salesman
blake	manager
clark	manager
scott	analyst
king	president
turner	salesman
adams	clerk
james	clerk
ford	analyst
millr	clerk

21. list all names and jobs so that the length of name should be 15 if it is smaller then add spaces to left

```
SQL> select lpad(ename,15,' '),lpad(job,15,' ') from emp;
```

LPAD(ENAME,15,' ')	LPAD(JOB,15,' ')
SMITH	CLERK
ALLEN	SALESMAN
WARD	SALESMAN
JONES	MANAGER
MARTIN	SALESMAN
BLAKE	MANAGER
CLARK	MANAGER
SCOTT	ANALYST
KING	PRESIDENT
TURNER	SALESMAN
ADAMS	CLERK
JAMES	CLERK
FORD	ANALYST
MILLER	CLERK

22. display min sal,max sal, average sal for all employees working under same manager

```
SQL> select mgr,min(sal)minimum,max(sal)maximum,round(avg(sal),2)average from emp group by mgr ;
```

MGR	MINIMUM	MAXIMUM	AVERAGE
7839	2450	2975	2758.33
	5000	5000	5000
7782	1300	1300	1300
7698	950	1600	1310
7902	800	800	800
7566	3000	3000	3000
7788	1100	1100	1100

23. find sum of total earnings(sal+comm), average of sal+comm for all employees who earn sal > 2000 and work in either dept no 10 or 20

```
SQL> select sum(sal+nvl(comm,0))Total_Earnings, avg(sal+nvl(comm,0))Average_Salary from emp where sal >2000 and deptno in (10,20);
```

TOTAL_EARNINGS	AVERAGE_SALARY
16425	3285

24. list all employees who joined in Aug 1980 and salary is >1500 and < 2500

```
SQL> select * from emp where extract(month from hiredate)=8 and extract (year from hiredate)=80 and sal between 1500 and 2500;
```

no rows selected

25. list all employees joined in either aug or may or dec

```
SQL> select * from emp where extract(month from hiredate)=8 or extract(month from hiredate)=5 or extract(month from hiredate)=12 ;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20

26. display name and hiredate in dd/mm/yy format for all employees whose job is clerk and they earn some commission

```
SQL> select ename,to_char(hiredate,'dd/mm/yy') from emp where job='clerk' and comm=nvl(comm,0);
```

no rows selected

27. list empcode,empno,name and job for each employee. (note :empcode is 3 to 5 characters from name and last 2 characters of job)

```
SQL> select empno,ename,concat(substr(ename,3,3),substr(job,length(job)-2,2)) empcode from emp;
```

EMPNO	ENAME	EMPCO
7369	SMITH	ITHER
7499	ALLEN	LENMA
7521	WARD	RDMA
7566	JONES	NESGE
7654	MARTIN	RTIMA
7698	BLAKE	AKEGE
7782	CLARK	ARKGE
7788	SCOTT	OTTYS
7839	KING	NGEN
7844	TURNER	RNEMA
7876	ADAMS	AMSER
7900	JAMES	MESER
7902	FORD	RDYS
7934	MILLER	LLEER

28. Display empid,name,sal,comm,remark Remark should base on following conditions

comm >= 600 "excellent Keep it up"

if it < 600 or not null "good"

otherwise "Need improvement"

```
SQL> select empno,ename,sal,nvl(comm,0), case when comm>= 600 then 'excellent keep it up'
2  when comm<600 or comm is not null then 'good'
3  else 'Need improvement'end Remark
4  from emp;
```

EMPNO	ENAME	SAL	NVL(COMM,0)	REMARK
7369	SMITH	800	0	Need improvement
7499	ALLEN	1600	300	good
7521	WARD	1250	500	good
7566	JONES	2975	0	Need improvement
7654	MARTIN	1250	1400	excellent keep it up
7698	BLAKE	2850	0	Need improvement
7782	CLARK	2450	0	Need improvement
7788	SCOTT	3000	0	Need improvement
7839	KING	5000	0	Need improvement
7844	TURNER	1500	0	good
7876	ADAMS	1100	0	Need improvement
7900	JAMES	950	0	Need improvement
7902	FORD	3000	0	Need improvement
7934	MILLER	1300	0	Need improvement

14 rows selected.

29. Display empid, name, deptno and department name by using following conditions.

dept 10 then "Hr"

if 20 then "Admin"

if 30 then "accounts"

otherwise purchase

```
SQL> select empno,ename,deptno,case when deptno=10 then 'Hr' when deptno=20 then 'Admin' when deptno=30 then 'Accounts'else
'Purchase' end Department_name from emp;
```

EMPNO	ENAME	DEPTNO	DEPARTME
7369	SMITH	20	Admin
7499	ALLEN	30	Accounts
7521	WARD	30	Accounts
7566	JONES	20	Admin
7654	MARTIN	30	Accounts
7698	BLAKE	30	Accounts
7782	CLARK	10	Hr
7788	SCOTT	20	Admin
7839	KING	10	Hr
7844	TURNER	30	Accounts
7876	ADAMS	20	Admin
7900	JAMES	30	Accounts
7902	FORD	20	Admin
7934	MILLER	10	Hr

14 rows selected.

Topic create Table, DML , subquery and joins

30. Practice creating following tables

```
create table mydept_DBDA
(
deptid number primary key,
dname varchar2(20) not null unique,
dloc varchar2(20)
)
```

```
SQL> create table mydept_DBDA(
 2  deptid number primary key,
 3  dname varchar2(20) not null unique,
 4  dloc varchar2(20) );
```

Table created.

```
SQL> desc mydept_DBDA
```

Name	Null?	Type
DEPTID	NOT NULL	NUMBER
DNAME	NOT NULL	VARCHAR2(20)
DLOC		VARCHAR2(20)

```
insert into mydept_DBDA values(30,'Purchase','Mumbai');
```



```
SQL> insert into mydept_DBDA values(30,'Purchase','Mumbai');  
1 row created.
```

```
SQL> select * from mydept_DBDA;
```

DEPTID	DNAME	DLOC
30	Purchase	Mumbai

```
create table myemployee
```

```
(
```

```
empno number(5) primary key,
```

```
fname varchar2(15) not null,
```

```
mname varchar2(15)
```

```

lname varchar2(15) not null,

sal number(9,2) check(sal >=1000),

doj date default sysdate,

passportnum varchar2(15) unique,

deptno number constraint fk_deptno references mydept_DBDA(deptid) on delete
cascade

)

```

```

SQL> create table myemployee (
  2 empno number(5) primary key,
  3 fname varchar2(15) not null,
  4 mname varchar2(15),
  5 lname varchar2(15) not null,
  6 sal number(9,2) check(sal>=1000),
  7 doj date default sysdate,
  8 passportnum varchar2(15) unique,
  9 deptno number constraint fk_deptno references mydept_DBDA(deptid) on delete cascade );

```

Table created.

```
SQL> desc myemployee
```

Name	Null?	Type
EMPNO	NOT NULL	NUMBER(5)
FNNAME	NOT NULL	VARCHAR2(15)
MNAME		VARCHAR2(15)
LNNAME	NOT NULL	VARCHAR2(15)
SAL		NUMBER(9,2)
DOJ		DATE
PASSPORTNUM		VARCHAR2(15)
DEPTNO		NUMBER

### 31. Create following tables Student, Course

Student (sid,sname) ----- sid ---primary key

```

SQL> create table Student1 (
  2 sid number(5) primary key,
  3 sname varchar2(20));

```

Table created.

```
SQL> desc Student1
```

Name	Null?	Type
SID	NOT NULL	NUMBER(5)
SNAME		VARCHAR2(20)

Course(cid,cname)----- cid ---primary key

```

SQL> create table Course1(
  2 cid number(5) primary key,
  3 cname varchar2(20));

```

Table created.

```
SQL> desc Course1
```

Name	Null?	Type
CID	NOT NULL	NUMBER(5)
CNAME		VARCHAR2(20)

Marks(studid,courseid,marks)

```
SQL> create table Marks (  
2 studid number(5),  
3 courseid number(5),  
4 marks number(5) );
```

Table created.

```
SQL> desc Marks
```

Name	Null?	Type
STUDID		NUMBER(5)
COURSEID		NUMBER(5)
MARKS		NUMBER(5)

Sample data for marks table

studid,courseid,marks

1 1 99

1 3 98

2 1 95

2 2 97

```
SQL> insert into Marks values(1,1,99);
```

1 row created.

```
SQL> insert into Marks values(1,3,98);
```

1 row created.

```
SQL> insert into Marks values(2,1,95);
```

1 row created.

```
SQL> insert into Marks values(2,2,97);
```

1 row created.

```
SQL> select * from Marks;
```

STUDID	COURSEID	MARKS
1	1	99
1	3	98
2	1	95
2	2	97

```

create table marks(

studid number,

courseid number,

marks number,

constraint pk primary key(studid,courseid),

constraint fk_sid foreign key (studid) references student(sid) on delete cascade,

constraint fk_cid foreign key (courseid) references course(cid)

)

```

```

SQL> create table marks1 (
  2  studid number,
  3  courseid number,
  4  marks number,
  5  constraint pk primary key(studid,courseid),
  6  constraint fk_sid foreign key (studid) references Student1(sid) on delete cascade,
  7  constraint fk_cid foreign key (courseid) references Course1(cid)
  8  );

```

Table created.

```
SQL> desc marks1
```

Name	Null?	Type
STUDID	NOT NULL	NUMBER
COURSEID	NOT NULL	NUMBER
MARKS		NUMBER

32. Create empty table emp10 with table structure same as emp table.

```
create table emp10 as
```

```
(
```

```
select * from emp where 1=2;

)
```

```
SQL> create table emp10 as (select * from emp where 1=2 );
```

Table created.

```
SQL> desc emp10
```

Name	Null?	Type
-----	-----	-----
EMPNO		NUMBER(4)
ENAME		VARCHAR2(10)
JOB		VARCHAR2(9)
MGR		NUMBER(4)
HIREDATE		DATE
SAL		NUMBER(7,2)
COMM		NUMBER(7,2)
DEPTNO		NUMBER(2)

33. Solve following using alter table

add primary key constraint on emp,dept,salgrade

emp ----> empno

dept---> deptno

salgrade---> grade

add foreign key constraint in emp

deptno ---> dept(deptno)

add new column in emp table netsal with constraint default 1000

```
SQL> alter table emp
2 add constraint p_k primary key(empno);
```

Table altered.

```
SQL> desc emp
```

Name	Null?	Type
-----	-----	-----
EMPNO	NOT NULL	NUMBER(5)
ENAME		VARCHAR2(10)
JOB		VARCHAR2(9)
MGR		NUMBER(4)
HIREDATE		DATE
SAL		NUMBER(7,2)
COMM		NUMBER(7,2)
DEPTNO		NUMBER(2)

```
SQL> desc dept
Name                                     Null?      Type
-----
DEPTNO                                     NUMBER(5)
DNAME                                     VARCHAR2(14)
LOC                                       VARCHAR2(13)

SQL> alter table dept
  2  add constraint PK_ primary key(deptno);

Table altered.

SQL> desc dept;
Name                                     Null?      Type
-----
DEPTNO                                     NOT NULL   NUMBER(5)
DNAME                                     VARCHAR2(14)
LOC                                       VARCHAR2(13)
```

```
SQL> alter table salgrade
  2  add constraint p primary key (grade);

Table altered.

SQL> desc salgrade
Name                                     Null?      Type
-----
GRADE                                     NOT NULL   NUMBER
LOSAL                                     NUMBER
HISAL                                     NUMBER
```

```
SQL> alter table emp
  2  add constraint F_K foreign key(deptno) REFERENCES DEPT(deptno);

Table altered.

SQL> desc emp
Name                                     Null?      Type
-----
EMPNO                                     NOT NULL   NUMBER(5)
ENAME                                     VARCHAR2(10)
JOB                                       VARCHAR2(9)
MGR                                       NUMBER(4)
HIREDATE                                  DATE
SAL                                       NUMBER(7,2)
COMM                                      NUMBER(7,2)
DEPTNO                                    NUMBER(2)

SQL> select CONSTRAINT_NAME,CONSTRAINT_type,table_name from user_constraints where table_name='EMP';

CONSTRAINT_NAME          C TABLE_NAME
-----
P_K                       P EMP
F_K                       R EMP
```

```
SQL> alter table emp
  2  add netsal number(5) default 1000;

Table altered.
```

```
SQL> select * from emp;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	PRESIDENT		17-NOV-81	5000		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	ANALYST	7782	23-JAN-82	1300		10	1000

34. Update employee sal            increase sal of each employee by 15 % sal +comm, change the job to manager and mgr to 7777 for all employees in deptno 10.

```
SQL> ed
Wrote file afiedt.buf
```

```
1 update emp
2 set sal=(sal*(0.15))+nvl(comm,0) , job='manager', mgr=7777
3* where deptno=10
```

```
SQL> /
```

```
3 rows updated.
```

```
SQL> select * from emp;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	195		10	1000

35. change job of smith to senior clerk

```

SQL> update emp
  2 set JOB='SENCLERK'
  3 WHERE ENAME='SMITH';

1 row updated.

SQL> SELECT * FROM EMP;

```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	SENCLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	195		10	1000

36. increase salary of all employees by 15% if they are earning some commission

```

SQL> update emp
  2 set sal=sal+sal*0.15
  3 where comm is not null;

4 rows updated.

SQL> select * from emp;

```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1437.5	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1437.5	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	195		10	1000

37. list all employees with sal>smith's sal

```

SQL> select * from emp
  2 where sal>(select sal from emp
  3 where ename='SMITH');

```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1437.5	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1437.5	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000

10 rows selected.



38. list all employees who are working in smith's department

```
1 select * from emp
2 where deptno=(select deptno from emp
3* where ename='SMITH')
SQL> /
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000

39. list all employees with sal < scott's sal and salary > allen's sal

```
SQL> select * from emp where sal < ( select sal from emp where ename='SCOTT' )and sal>(select sal from emp where ename='ALLEN');
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000

40. change salary of Allen to the salary of Miller.

```
SQL> update emp SET SAL=(SELECT sal from emp where ename='ALLEN') where ename='MILLER';
```

1 row updated.

```
SQL> select * from emp ;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
101	disha	analyst	4674	08-SEP-23	1500	0	10	1000
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1437.5	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1437.5	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	1840		10	1000

15 rows selected.

41. change salary of all employees who working in Ward's department to the salary of Miller.

```
SQL> update emp SET SAL=(select sal from emp where ename='MILLER')
2 where deptno = (select deptno from emp where ename='WARD');
```

6 rows updated.

```
SQL> select * from emp ;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
101	disha	analyst	4674	08-SEP-23	1500	0	10	1000
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1840	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1840	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	1840		30	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1840	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	1840		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	1840		10	1000

15 rows selected.

42. list all employees with salary > either Smith's salary or allen's sal

```
SQL> select sal,ename from emp where sal>(select sal from emp where ename='SMITH') or sal>(select sal from emp where ename='ALLEN');
```

SAL	ENAME
1500	disha
1840	ALLEN
1840	WARD
2975	JONES
1840	MARTIN
1840	BLAKE
3000	SCOTT
1840	TURNER
1100	ADAMS
1840	JAMES
3000	FORD
1840	MILLER

12 rows selected.

43. list all employees who earn more than average sal of dept 10

```
SQL> select * from emp where sal>(select avg(sal) from emp where deptno=10);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
101	disha	analyst	4674	08-SEP-23	1500	0	10	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1840	500	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1840	1400	30	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	1840		30	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1840	0	30	1000
7900	JAMES	CLERK	7698	03-DEC-81	1840		30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	1840		10	1000

11 rows selected.

44. list all employees who earn more than average sal of Allen's department

```
SQL> select * from emp where sal>(select avg(sal)from emp where deptno=(select deptno from emp where ename='ALLEN')) ;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000

45. delete all employees working in allen's department

```
SQL> delete from emp where deptno=(select deptno from emp where ename='ALLEN');
```

6 rows deleted.

```
SQL> select * from emp;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
101	disha	analyst	4674	08-SEP-23	1500	0	10	1000
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7782	CLARK	manager	7777	09-JUN-81	367.5		10	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000
7934	MILLER	manager	7777	23-JAN-82	1840		10	1000

9 rows selected.

46. list all employees who are working in purchase department

```
SQL> select empno,ename from emp e,dept d where d.dname='finance';
```

EMPNO	ENAME
101	disha
7369	SMITH
7499	ALLEN
7521	WARD
7566	JONES
7654	MARTIN
7698	BLAKE
7782	CLARK
7788	SCOTT
7839	KING
7844	TURNER
7876	ADAMS
7900	JAMES
7902	FORD
7934	MILLER

15 rows selected.

47. list all employees who earn more than average salary of their own department

```
SQL> select * from emp e where sal>(select avg(sal) from emp d where e.deptno=d.deptno);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
101	disha	analyst	4674	08-SEP-23	1500	0	10	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30	1000
7788	SCOTT	ANALYST	7566	09-DEC-82	3000		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7902	FORD	ANALYST	7566	03-DEC-81	3000		20	1000

8 rows selected.

48. list all employees who earn sal < than their managers salary

```
SQL> select * from emp e where sal<(select sal from emp d where e.mgr=d.empno);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7369	SMITH	CLERK	7902	17-DEC-80	800		20	1000
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7521	WARD	SALESMAN	7698	22-FEB-81	1437.5	500	30	1000
7654	MARTIN	SALESMAN	7698	28-SEP-81	1437.5	1400	30	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000
7900	JAMES	CLERK	7698	03-DEC-81	950		30	1000

7 rows selected.

49. list all employees who are earning more than average salary of their job

```
SQL> select * from emp e where sal>(select avg(sal) from emp d where e.job=d.job);
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	NETSAL
7499	ALLEN	SALESMAN	7698	20-FEB-81	1840	300	30	1000
7566	JONES	MANAGER	7839	02-APR-81	2975		20	1000
7839	KING	manager	7777	17-NOV-81	750		10	1000
7844	TURNER	SALESMAN	7698	08-SEP-81	1725	0	30	1000
7876	ADAMS	CLERK	7788	12-JAN-83	1100		20	1000

50. display employee name and department

```
SQL> select ename ,dname from emp e, dept d where e.deptno=d.deptno;
```

ENAME	DNAME
disha	ACCOUNTING
MILLER	ACCOUNTING
KING	ACCOUNTING
CLARK	ACCOUNTING
JONES	RESEARCH
SMITH	RESEARCH
FORD	RESEARCH
ADAMS	RESEARCH
SCOTT	RESEARCH
ALLEN	SALES
TURNER	SALES
JAMES	SALES
WARD	SALES
BLAKE	SALES
MARTIN	SALES

15 rows selected.

51. display empno,name,department name and grade (use emp,dept and salgrade table)

```
SQL> select e.ename,d.dname,s.grade
2  from emp e,dept d,salgrade s
3  where e.deptno=d.deptno and e.sal between s.losal and s.hisal;
```

ENAME	DNAME	GRADE
SMITH	RESEARCH	1
ALLEN	SALES	3
WARD	SALES	2
JONES	RESEARCH	4
MARTIN	SALES	2
BLAKE	SALES	4
CLARK	ACCOUNTING	4
SCOTT	RESEARCH	4
KING	ACCOUNTING	5
TURNER	SALES	3
ADAMS	RESEARCH	1

ENAME	DNAME	GRADE
JAMES	SALES	1
FORD	RESEARCH	4
MILLER	ACCOUNTING	2

14 rows selected.

52. list all employees number,name, mgrno and manager name

```
SQL> select e.empno, e.ename, e.mgr,m.ename as MANAGER
2  from emp e, emp m
3  where e.mgr=m.empno;
```

EMPNO	ENAME	MGR	MANAGER
7902	FORD	7566	JONES
7788	SCOTT	7566	JONES
7900	JAMES	7698	BLAKE
7844	TURNER	7698	BLAKE
7654	MARTIN	7698	BLAKE
7521	WARD	7698	BLAKE
7499	ALLEN	7698	BLAKE
7934	MILLER	7782	CLARK
7876	ADAMS	7788	SCOTT
7782	CLARK	7839	KING
7698	BLAKE	7839	KING
7566	JONES	7839	KING
7369	SMITH	7902	FORD

13 rows selected.

53. create following tables and solve following questions(primary keys are marked in yellow)  
foreign keys are marked in green

product(pid,pname,price,qty,cid,sid)

salesman (sid,sname,address)

category(cid,cnam,descriptpion)

```
SQL> create table product (  
  2  pid number primary key,  
  3  pname varchar2(20),  
  4  price number,  
  5  qty number,  
  6  cid number,  
  7  sid number);
```

Table created.

```
SQL> create table category(  
  2  cid number primary key,  
  3  cname varchar2(20),  
  4  description varchar2(20));
```

Table created.

```
SQL> create table salesman(  
  2  sid number primary key,  
  3  sname varchar2(20),  
  4  address varchar2(20));
```

Table created.

```
SQL> alter table product  
  2  add constraint cid_fk foreign key(cid)  
  3  references category(cid);
```

Table altered.

```
SQL> alter table product  
  2  add constraint sid_fk foreign key(sid)  
  3  references salesman(sid);
```

Table altered.

1. list all product name,their category name and name of a person, who sold that product

```
SQL> select p.pname, c.cname, s.sname
  2  from product p, category c,salesman s
  3  where p.sid=s.sid and p.cid=c.cid;
```

PNAME	CNAME	SNAME
GLASS	BOTTLE	shivam
STEEL	BOTTLE	shivam
CELLO	PEN	shivam
hp	LAPTOP	shivam
Montex	PEN	aditya
ACER	LAPTOP	aditya
history	BOOKS	shreyas
bigdate	BOOKS	soham
everyone	BOOKS	atharva
dell	LAPTOP	atharva
asus	LAPTOP	ajinkya

11 rows selected.

1.

2. list all product name and salesman name for all salesman who stays in pune

```
SQL> select p.pname, s.sname, s.address
  2  from product p, salesman s
  3  where s.address='PUNE';
```

PNAME	SNAME	ADDRESS
hp	shivam	PUNE
dell	shivam	PUNE
asus	shivam	PUNE
ACER	shivam	PUNE
history	shivam	PUNE
everyone	shivam	PUNE
bigdate	shivam	PUNE
CELLO	shivam	PUNE
Montex	shivam	PUNE
STEEL	shivam	PUNE
GLASS	shivam	PUNE

11 rows selected.

3. list all product name and category name

```
SQL> select p.pname, c.cname
2  from product p, category c
3  where p.cid = c.cid;
```

PNAME	CNAME
hp	LAPTOP
dell	LAPTOP
asus	LAPTOP
ACER	LAPTOP
history	BOOKS
everyone	BOOKS
bigdate	BOOKS
CELLO	PEN
Montex	PEN
STEEL	BOTTLE
GLASS	BOTTLE

11 rows selected.

54. create following tables and solve following questions(primary keys are marked in yellow)  
foreign keys are marked in green

faculty(**fid**,fname,sp.skill1,sp.skill2)

courses(**cid**,cname,**rid,fid**)

room(**roomid**,rname,rloc)

faculty

fid fname spskill1 spskill2

10 kjzhcjh z a b

11 sdd x z

12 lksjk a x

13 ksdjlkj a b

courses

cid cname rid fid

121 DBDA 100 10

131 DAC 101

141 DTISS

151 DIOT 105 12

Room



roomid rname rloc

100 jasmin 1st floor

101 Rose 2nd floor

105 Lotus 1st floor

103 Mogra 1st floor

1. list all courses for which no room is assigned and all rooms for which are available

```
SQL> create table faculty (  
2  fid number primary key,  
3  fname varchar2(20),  
4  spskill1 varchar2(20),  
5  spskill2 varchar2(20));
```

Table created.

```
SQL> create table courses (  
2  cid number primary key,  
3  cname varchar2(20),  
4  rid number,  
5  rloc varchar(2));
```

Table created.

```
SQL> create table room (  
2  roomid number primary key,  
3  rname varchar2(20),  
4  rloc varchar2(20));
```

Table created.

SQL>

```
SQL> select * from courses;
```

CID	CNAME	RID	FID
121	DBDA	100	10
131	DAC	101	
141	DITISS		
151	DIOT	105	12

```
SQL> select * from room;
```

ROOMID	RNAME	RLOC
100	jasmin	1stfloor
101	Rose	2ndfloor
105	Lotus	1stfloor
103	Morga	1stfloor

```
SQL> select * from faculty;
```

FID	FNAME	SPSKILL1	SPSKILL2
10	rohit	a	b
11	shantanu	x	z
12	pretty	a	x
13	pryanka	a	b

SP2-0734: unknown command beginning "where not ..." - rest of line ignored

```
SQL> Select *  
2 From room r  
3 Where not exists (select * from courses c where c.rid=r.roomid);
```

ROOMID	RNAME	RLOC
103	Morga	1stfloor

```
SQL> Select *
```

```

SQL> Select *
2
SQL> SELECT c.cid, c.cname
2 FROM courses c
3 WHERE c.rid IS NULL;

CID CNAME
-----
141 DITISS

SQL> SELECT r.roomid, r.rname, r.rloc
2 FROM room r
3 LEFT JOIN courses c ON r.roomid = c.rid
4 WHERE c.cid IS NULL;

ROOMID RNAME          RLOC
-----
103 Morga             1stfloor

SQL> SELECT 'Courses with No Room Assigned' AS result_type, c.cid, c.cname
2 FROM courses c
3 WHERE c.rid IS NULL
4 UNION
5 SELECT 'Available Rooms', r.roomid, r.rname
6 FROM room r
7 LEFT JOIN courses c ON r.roomid = c.rid
8 WHERE c.cid IS NULL;

RESULT_TYPE          CID CNAME
-----
Available Rooms      103 Morga
Courses with No Room Assigned  141 DITISS

```

2. list all faculties who are not allocated to any course and rooms which are not allocated to any course

```

SQL> select 'faculties not assigned' as result, f.fname, f.fid
2 from faculty f
3 where not exists (select * from courses c where c.fid=f.fid)
4 UNION
5 select 'available rooms',c.cname, c.cid
6 from courses c
7 where not exists (select * from room r where roomid=c.rid);

RESULT          FNAME          FID
-----
available rooms  DITISS         141
faculties not assigned pryanka      13
faculties not assigned shantanu     11

SQL>

```

3. list all rooms which are allocated or not allocated to any courses
4. list all rooms which are not allocated to any courses
5. display courses and faculty assigned to those courses whose special skill is database
6. display time table --- it should contain course details , faculty and room

details

55. create following tables with given constraints

product    qty >0, default 20.00,pname not null and unique

prodid	pname	qty	price	catid	sid
123	lays	30	30.00	1	12
111	pepsi	40	50.00	4	11
134	nachos	50	50.00	1	12
124	dairy milk	40	60.00	2	14
124	pringles	40	60.00	1	14

saleman ----- sname    not null

sid   sname   city

11   Rahul   Pune

12   Kirti   Mumbai

13   Prasad   Nashik

14   Arnav   Amaravati

category ---- cname unique and not null

	cid	cname	description
1		chips	very crunchy
2		chocolate	very chocolaty
3		snacks	yummy
4		cold drinks	thanda thanda cool cool

1. List all products with category chips
2. display all products sold by kirti
3. display all salesman who do not sold any product
4. display all category for which no product is there
5. display all products with no category assigned
6. list all salesman who stays in city with name starts with P or N
7. add new column in salesman table by name credit limit

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