<A. Creation of tables:>

create table DEPT(
DEPTNO int primary key,
DNAME varchar(10),
LOC varchar(10));

\

```
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| DEPTNO  | int(11)     | NO   | PRI | NULL    |       |
| DNAME   | varchar(10) | YES  |     | NULL    |       |
| LOC     | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
```

After insertion of values

```
+--------+------------+----------+
| DEPTNO | DNAME      | LOC      |
+--------+------------+----------+
|     10 | Accounting | New York |
|     20 | Research   | Dallas   |
|     30 | Sales      | Chicago  |
|     40 | Operations | Boston   |
+--------+------------+----------+
```

create table EMP(
  -> EMPNO int primary key,
  -> ENAME varchar(15),
  -> JOB varchar(15),
  -> MGR int references EMP(EMPNO),
  -> HIREDATE date,
  -> SAL int,
  -> COMM int,
  -> DEPTNO int references DEPT(DEPTNO));

```
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| EMPNO    | int(11)     | NO   | PRI | NULL    |       |
| ENAME    | varchar(15) | YES  |     | NULL    |       |
| JOB      | varchar(15) | YES  |     | NULL    |       |
| MGR      | int(11)     | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
| SAL      | int(11)     | YES  |     | NULL    |       |
| COMM     | int(11)     | YES  |     | NULL    |       |
| DEPTNO   | int(11)     | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
```

After insertion of values

```
+-------+--------+-----------+------+------------+------+------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+--------+-----------+------+------------+------+------+--------+
|  7369 | Smith  | Clerk     | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7499 | Allen  | Salesman  | 7698 | 1981-02-20 | 1600 |  300 |     30 |
|  7521 | Ward   | Salesman  | 7698 | 1981-02-22 | 1250 |  500 |     30 |
|  7566 | Jones  | Manager   | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7654 | Martin | Salesman  | 7698 | 1981-09-28 | 1250 | 1400 |     30 |
|  7698 | Blake  | Manager   | 7839 | 1981-05-01 | 2850 | NULL |     30 |
|  7782 | Clark  | Manager   | 7839 | 1981-06-09 | 2450 | NULL |     10 |
|  7788 | Scott  | Analyst   | 7566 | 1982-12-09 | 3000 | NULL |     20 |
|  7839 | King   | President | NULL | 1981-11-17 | 5000 | NULL |     10 |
|  7844 | Turner | Salesman  | 7698 | 1981-09-08 | 1500 |    0 |     30 |
|  7876 | Adams  | Clerk     | 7788 | 1983-01-12 | 1100 | NULL |     20 |
|  7900 | James  | Clerk     | 7698 | 1981-12-03 |  950 | NULL |     30 |
|  7902 | Ford   | Analyst   | 7566 | 1981-12-04 | 3000 | NULL |     20 |
|  7934 | Miller | Clerk     | 7782 | 1981-01-23 | 1300 | NULL |     10 |
+-------+--------+-----------+------+------------+------+------+--------+
```

<B. Queries and their Solutions>

a) List the names of analysts and salesman ?
Query:
select ENAME
from EMP
where JOB='Analyst' OR JOB='Salesman';
Output:-

```
+---------+
| ENAME   |
+---------+
| Allen   |
| Ward    |
| Martin  |
| Scott   |
| Turner  |
| Ford    |
+---------+
```

b) List details of employees who joined before 30 Sep 1981?
Query:
SELECT *
from EMP
where HIREDATE<'1981-09-30';
Output:-

```
+--------+--------+----------+------+------------+------+------+--------+
| EMPNO  | ENAME  | JOB      | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+--------+--------+----------+------+------------+------+------+--------+
|  7369  | Smith  | Clerk    | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7499  | Allen  | Salesman | 7698 | 1981-02-20 | 1600 |  300 |     30 |
|  7521  | Ward   | Salesman | 7698 | 1981-02-22 | 1250 |  500 |     30 |
|  7566  | Jones  | Manager  | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7654  | Martin | Salesman | 7698 | 1981-09-28 | 1250 | 1400 |     30 |
|  7698  | Blake  | Manager  | 7839 | 1981-05-01 | 2850 | NULL |     30 |
|  7782  | Clark  | Manager  | 7839 | 1981-06-09 | 2450 | NULL |     10 |
|  7844  | Turner | Salesman | 7698 | 1981-09-08 | 1500 |    0 |     30 |
|  7934  | Miller | Clerk    | 7782 | 1981-01-23 | 1300 | NULL |     10 |
+--------+--------+----------+------+------------+------+------+--------+
```
.

c) List names of employees who are not managers ?

Query:

select ENAME

from EMP

where JOB NOT in ('Manager');

Otut-

```
+---------+
| ENAME   |
+---------+
| Smith   |
| Allen   |
| Ward    |
| Martin  |
| Scott   |
| King    |
| Turner  |
| Adams   |
| James   |
| Ford    |
| Miller  |
+---------+
```

d) List names of employees whose employe numbers are 7369,7521,7839,7934,9988 ?

Quy:

select ENAME

from EMP

where EMPNO in (7369,7521,7839,7934,9988);

Output:-

.

```
+---------+
| ENAME   |
+---------+
| Smith   |
| Ward    |
| King    |
```

e) List employees not belonging to dept 30,40,10 ?
Qᴜʏ:

SELECT *
from EMP
 where DEPTNO NOT in (30,40,10);

```
+-------+--------+---------+------+------------+------+------+--------+
| EMPNO | ENAME  | JOB     | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+--------+---------+------+------------+------+------+--------+
|  7369 | Smith  | Clerk   | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7566 | Jones  | Manager | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7788 | Scott  | Analyst | 7566 | 1982-12-09 | 3000 | NULL |     20 |
|  7876 | Adams  | Clerk   | 7788 | 1983-01-12 | 1100 | NULL |     20 |
|  7902 | Ford   | Analyst | 7566 | 1981-12-04 | 3000 | NULL |     20 |
+-------+--------+---------+------+------------+------+------+--------+
```
.

f) List employee names for those joined between 30 June and 31 dec 1981?
Qᴜʏ:

SELECT ENAME
 from EMP
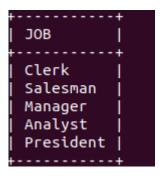 where HIREDATE between '1981-06-30' AND '1981-12-31';

```
+--------+
| ENAME  |
+--------+
| Martin |
| King   |
| Turner |
| James  |
| Ford   |
+--------+
```

g) List different designation in the company ?
Qᴜʏ:

SELECT distinct JOB
 from EMP;

```
+-----------+
| JOB       |
+-----------+
| Clerk     |
| Salesman  |
| Manager   |
| Analyst   |
| President |
+-----------+
```

h) List names of employees not eligible for comission?
Query:

```
SELECT  ENAME
from EMP
where COMM is NULL;
```

```
+---------+
| ENAME   |
+---------+
| smith   |
| jones   |
| Blake   |
| Clark   |
| Scott   |
| King    |
| Adams   |
| James   |
| Ford    |
| Miller  |
+---------+
```

i) List names and designatin of employees who dont report to anyone ?
Query:

```
SELECT ENAME,Job
 from EMP
where MGR is NULL;
```

```
+---------+-----------+
| ENAME   | JOb       |
+---------+-----------+
| King    | President |
+---------+-----------+
```

j) List employees not assigned to any dept ?
Query:

```
SELECT * from
EMP
where DEPTNO is NULL;
```

```
Empty set (0.00 sec)
```

k) List employees eligible for comission?
Query:

```
SELECT *
from EMP
 where COMM is NOT NULL;
```

```
+-------+--------+----------+------+------------+------+------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+--------+----------+------+------------+------+------+--------+
|  7499 | Allen  | Salesman | 7698 | 1981-02-20 | 1600 |  300 |     30 |
|  7521 | Ward   | Salesman | 7698 | 1981-02-22 | 1250 |  500 |     30 |
|  7654 | Martin | Salesman | 7698 | 1981-09-28 | 1250 | 1400 |     30 |
|  7844 | Turner | Salesman | 7698 | 1981-09-08 | 1500 |    0 |     30 |
```

l) List employees whose names start or end with 's' ?

Query:

SELECT *
from EMP
where ENAME like 's%' OR ENAME like '%s';

```
+--------+--------+---------+-------+------------+------+------+--------+
| EMPNO  | ENAME  | JOB     | MGR   | HIREDATE   | SAL  | COMM | DEPTNO |
+--------+--------+---------+-------+------------+------+------+--------+
|   7369 | smith  | clerk   | 7902  | 1980-12-17 |  800 | NULL |     20 |
|   7566 | jones  | Manager | 7839  | 1981-04-02 | 2975 | NULL |     20 |
|   7788 | Scott  | Analyst | 7566  | 1982-12-09 | 3000 | NULL |     20 |
|   7876 | Adams  | Clerk   | 7788  | 1983-12-01 | 1100 | NULL |     20 |
|   7900 | James  | Clerk   | 7698  | 1981-12-03 |  950 | NULL |     30 |
+--------+--------+---------+-------+------------+------+------+--------+
```

m) List names of employees whose names have 'i' as second character ?

Query:

select ENAME

from EMP

where ENAME like '_i%';

Output:-

```
+--------+  .
| ENAME  |
+--------+
| King   |
| Miller |
+--------+
```
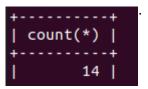
n) List number of employees workig with the company ?

Query:

select count(*)

from EMP;

Output:-

```
+----------+  .
| count(*) |
+----------+
|       14 |
```

o) List the number of designations available in the EMP table?

Query:

select count(distinct JOB)

from EMP;

```
+--------------------+
| count(distinct JOB) |
+--------------------+
|                  5 |
+--------------------+
```

p) List total salaries paid to salaries ?

Query:

select sum(sal)

from EMP;

```
+-----------+
| sum(sal) |
+-----------+
|    29025 |
+-----------+
```

q) List max,min and avg of salary in company ?

Query:

select max(sal), min(sal) , avg(sal)

from EMP;

Output:-

```
+----------+----------+------------+     .
| max(sal) | min(sal) | avg(sal)   |
+----------+----------+------------+
|     5000 |      800 | 2073.2143  |
+----------+----------+------------+
```

r) List max salary paid to a salseman ?

Query:

SELECT max(sal)
from EMP
where JOB='Salesman';
Output:-

```
+----------+
| max(sal) |
+----------+
|     1600 |
+----------+
```