Problem 1.1: Create a table called EMP with the following structure.

```
SQL> create table emp(empno number(6),
  2          ename varchar2(20),
  3          job varchar2(10),
  4          mgr number(4),
  5          deptno number(3),
  6          sal number(7,2));

Table created.

SQL> desc emp;
 Name                      Null?  Type
 ----------------------------------------- -------- ----------------------------
 EMPNO                              NUMBER(6)
 ENAME                              VARCHAR2(20)
 JOB                               VARCHAR2(10)
 MGR                               NUMBER(4)
 DEPTNO                             NUMBER(3)
 SAL                               NUMBER(7,2)
```

Problem 1.2: Add a column commission to the emp table. Commission numeric null allowed.

SQL> alter table emp add commission number(6);

Table altered.

SQL> desc emp;

Name	Null?	Type
EMPNO		NUMBER(6)
ENAME		VARCHAR2(20)
JOB		VARCHAR2(10)
MGR		NUMBER(4)
DEPTNO		NUMBER(3)
SAL		NUMBER(7,2)
COMMISSION		NUMBER(6)

Problem 1.3: Modify the column width of the job field of emp table.

SQL> alter table emp modify job varchar2(10);

Table altered.

SQL> desc emp;

Name	Null?	Type
EMPNO		NUMBER(6)
ENAME		VARCHAR2(20)
JOB		VARCHAR2(10)

MGR NUMBER(4)

DEPTNO NUMBER(3)

SAL NUMBER(7,2)

COMMISSION NUMBER(6)

Problem 1.4: Create dept table with the following structure.

```
SQL> create table dept(
 2 deptno number(2),
 3  dname varchar2(10),
 4  loc varchar2(10),
 5  primary key(deptno));

Table created.

SQL> desc dept;
 Name                      Null?  Type
 ----------------------------------------- -------- ----------------------------
 DEPTNO                    NOT NULL NUMBER(2)
 DNAME                     VARCHAR2(10)
 LOC                       VARCHAR2(10)
```

Problem 1.5: Add constraints to the emp table that empno as the primary key and deptno as the foreign key.

```
SQL> alter table emp modify empno primary key;

Table altered.

SQL> alter table emp add foreign key(deptno) references dept(deptno);
```

Table altered.

Problem 1.6: Add constraints to the emp table to check the empno value while

entering (i.e) empno > 100.

```
SQL> alter table emp modify check(empno>100);

Table altered.
```

Problem 1.7: Salary value by default is 5000, otherwise as entered values

```
SQL> alter table emp modify sal default 5000;

Table altered.
```

Problem 1.8: Add columns Dob to the emp table.

```
SQL> alter table emp add dob date;

Table altered.

SQL> desc emp;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMPNO                                     NOT NULL NUMBER(6)
 ENAME                                              VARCHAR2(20)
 JOB                                                VARCHAR2(10)
 MGR                                                NUMBER(4)
```

DEPTNO	NUMBER(3)
SAL	NUMBER(7,2)
COMMISSION	NUMBER(6)
DOB	DATE

Problem 2.1: Insert 3 records into dept table.

```
SQL> insert into dept values(10,'MANAGEMENT','MAIN BLOCK');

1 row created.

SQL> insert into dept values(20,'DEVELOPMENT','MANUFACTURING UNIT');

1 row created.

SQL> insert into dept values(30,'MAINTAINANCE','MAIN BLOCK');

1 row created.

SQL> insert into dept values(40,'TRANSPORT','ADMIN BLOCK');

1 row created.

SQL> INSERT INTO dept values(50,'SALES','HEAD OFFICE');

1 row created.
```

Problem 2.2: Insert 10 records into emp table.

```
SQL> INSERT INTO EMP VALUES(7369,'SMITH','CLERK',7566,20,800,0,'17-DEC-1980');

1 row created.

SQL> INSERT INTO EMP VALUES(7399,'ASANT','SALESMAN',7566,20,1600,300,'20-FEB-1981');

1 row created.

SQL> INSERT INTO EMP VALUES(7499,'ALLEN','SALESMAN',7698,30,1600,300,'20-FEB-1981');

1 row created.

SQL> INSERT INTO EMP VALUES(7521,'WARD','SALESMAN',7698,30,1250,500,'22-FEB-1982');
```

1 row created.

SQL> INSERT INTO EMP VALUES(7566,'JONES','MANAGER',7839,20,5975,500,'02-APR-1981');

1 row created.

SQL> INSERT INTO EMP VALUES(7698,'BLAKE','MANAGER',7839,30,9850,1400,'01-MAY-1979');

1 row created.

SQL> INSERT INTO EMP VALUES(7611,'SCOTT','HOD',7839,10,3000,NULL,'12-JUN-1976');

1 row created.

SQL> INSERT INTO EMP VALUES(7839,'CLARK','CEO',NULL,10,9900,NULL,'16-MAR-1972');

1 row created.

SQL> INSERT INTO EMP VALUES(7368,'FORD','SUPERVISOR',7366,20,800,0,'17-DEC-1980');

1 row created.

SQL> INSERT INTO EMP VALUES(7599,'ALLEY','SALESMAN',7698,30,1600,300,'20-FEB-1981');

1 row created.

SQL> INSERT INTO EMP VALUES(7421,'DRANK','CLERK',7698,30,1250,500,'22-JAN-1982');

1 row created.

Problem 2.3: Update the emp table to set the default commission of all employees to Rs 1000/- who are working as managers?

SQL> UPDATE EMP SET COMMISSION=1000 WHERE JOB='MANAGER';

2 rows updated.

Problem 2.4: Create a pseudo table employee with the same structure as the table emp and insert rows into the table using select clauses.

SQL> create table employee as select *from EMP;

Table created.

Problem 2.5: Delete only those who are working as supervisors.

SQL> delete from employee where JOB='SUPERVISOR';

1 row deleted.

Problem 2.6: Delete the rows whose empno is 7599.

SQL> delete from employee where EMPNO=7599;

1 row deleted.

Problem 2.7: List the records in the emp table orderby salary in ascending order.

SQL> select * from employee order by SAL;

```
    EMPNO ENAME              JOB                 MGR     DEPTNO
---------- -------------------- ------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
      7369 SMITH              CLERK               7566
       20
       800          0 17-DEC-80

      7521 WARD               SALESMAN             7698
       30
      1250        500 22-FEB-82

      7421 DRANK              CLERK               7698
       30
      1250        500 22-JAN-82


    EMPNO ENAME              JOB                 MGR     DEPTNO
---------- -------------------- ------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
      7399 ASANT              SALESMAN             7566
       20
      1600        300 20-FEB-81

      7499 ALLEN              SALESMAN             7698
```

```
        30
      1600        300 20-FEB-81

      7611 SCOTT              HOD                  7839
        10
      3000          12-JUN-76


     EMPNO ENAME              JOB                  MGR     DEPTNO
---------- -------------------- -------------------- ---------- ----------
       SAL COMMISSION DOB
---------- ---------- ---------
      7566 JONES              MANAGER              7839
        20
      5975       1000 02-APR-81

      7698 BLAKE              MANAGER              7839
        30
      9850       1000 01-MAY-79

      7839 CLARK              CEO
        10
      9900          16-MAR-72


9 rows selected.
```

Problem 2.8: List the records in the emp table orderby salary in descending order.

```
SQL> select * from employee order by SAL desc;

     EMPNO ENAME              JOB                  MGR     DEPTNO
```

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7839 CLARK CEO

10

9900 16-MAR-72

7698 BLAKE MANAGER 7839

30

9850 1000 01-MAY-79

7566 JONES MANAGER 7839

20

5975 1000 02-APR-81

EMPNO ENAME JOB MGR DEPTNO

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7611 SCOTT HOD 7839

10

3000 12-JUN-76

7399 ASANT SALESMAN 7566

20

1600 300 20-FEB-81

7499 ALLEN SALESMAN 7698

30

1600 300 20-FEB-81

```
    EMPNO ENAME              JOB                   MGR     DEPTNO
---------- -------------------- -------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
      7521 WARD               SALESMAN               7698
       30
      1250        500 22-FEB-82

      7421 DRANK              CLERK                  7698
       30
      1250        500 22-JAN-82

      7369 SMITH              CLERK                  7566
       20
       800          0 17-DEC-80


9 rows selected.
```

Problem 2.9: Display only those employees whose deptno is 30.

```
SQL> select * from employee where DEPTNO=30;

    EMPNO ENAME              JOB                   MGR     DEPTNO
---------- -------------------- -------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
      7499 ALLEN              SALESMAN               7698
       30
      1600        300 20-FEB-81
```

```
      7521 WARD            SALESMAN            7698
       30
      1250       500 22-FEB-82

      7698 BLAKE           MANAGER             7839
       30
      9850      1000 01-MAY-79


    EMPNO ENAME            JOB                 MGR     DEPTNO
---------- ------------------- ------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
      7421 DRANK           CLERK               7698
       30
      1250       500 22-JAN-82
```

Problem 2.10: Display deptno from the table employee avoiding the duplicated values.

```
SQL> select distinct DEPTNO from employee;

    DEPTNO
----------
       30
       20
       10
```

Problem 2.11: List the records in sorted order of their employees.

```
SQL> select *from EMP order by ename;

    EMPNO ENAME            JOB                 MGR     DEPTNO
---------- ------------------- ------------------- ---------- ----------
```

SAL COMMISSION DOB

---------- ---------- ---------

7499 ALLEN SALESMAN 7698

30

1600 300 20-FEB-81

7599 ALLEY SALESMAN 7698

30

1600 300 20-FEB-81

7399 ASANT SALESMAN 7566

20

1600 300 20-FEB-81

EMPNO ENAME JOB MGR DEPTNO

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7698 BLAKE MANAGER 7839

30

9850 1000 01-MAY-79

7839 CLARK CEO

10

9900 16-MAR-72

7421 DRANK CLERK 7698

30

1250 500 22-JAN-82

EMPNO ENAME JOB MGR DEPTNO

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7368 FORD SUPERVISOR 7366

20

800 0 17-DEC-80

7566 JONES MANAGER 7839

20

5975 1000 02-APR-81

7611 SCOTT HOD 7839

10

3000 12-JUN-76

EMPNO ENAME JOB MGR DEPTNO

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7369 SMITH CLERK 7566

20

800 0 17-DEC-80

7521 WARD SALESMAN 7698

30

1250 500 22-FEB-82

11 rows selected.

Problem 2.12: create a manager table from the emp table which should hold details aonly about the managers.

SQL> create table manager as select * from EMP where JOB='MANAGER';

Table created.

Problem 2.13: List the employee names whose commission is null

SQL> select *from EMP where COMMISSION is null;

```
    EMPNO ENAME              JOB                   MGR     DEPTNO
---------- -------------------- -------------------- ---------- ----------
      SAL COMMISSION DOB
---------- ---------- ---------
     7611 SCOTT              HOD                   7839
       10
     3000          12-JUN-76

     7839 CLARK              CEO
       10
     9900          16-MAR-72
```

Problem 2.14: List the employee names and the department name in which they are working.

SQL> select ENAME,DNAME from EMP,DEPT where EMP.DEPTNO=dept.DEPTNO;

```
ENAME              DNAME
-------------------- --------------------
SMITH              DEVELOPMENT
ASANT              DEVELOPMENT
ALLEN              MAINTAINANCE
WARD               MAINTAINANCE
```

JONES	DEVELOPMENT
BLAKE	MAINTAINANCE
SCOTT	MANAGEMENT
CLARK	MANAGEMENT
FORD	DEVELOPMENT
ALLEY	MAINTAINANCE
DRANK	MAINTAINANCE

11 rows selected.

3.1 select * from EMPLOYEE where DEPTNO in(7369,7499);

3.2 select * from EMPLOYEE where ENAME like "s%";

3.3 select * from EMPLOYEE where ENAME not like "s%";

3.4 select * from EMPLOYEE where EMPNO between 7500 and 7600 ;

3.5 Select * from EMPLOYEE where EMPNO not between 7500 and 7600 ;

3.6 select sqrt(SAL) from EMPLOYEE;

3.7 SELECT COUNT(*) FROM EMPLOYEE;

3.8 SELECT SUM(SAL),AVG(SAL) FROM EMPLOYEE;

3.9 select min(SAL) "MIN_SAL", MAX(SAL) "MAX_SAL" from EMPLOYEE;

3.10 SELECT SUM(SAL) FROM EMPLOYEE;

3.11 SELECT JOB,SUM(SAL) FROM EMPLOYEE GROUP BY JOB;

3.12 select to_char(to_date(’14-jul-09’),'month') from dual;

3.13 select to_date(DOB,'DD-MM-YY') from EMPLOYEE;

3.14 select add_months(DOB,2) from EMPLOYEE;

3.15 select last_day('05-oct-09') from dual;

3.16 select round(to_date(dob),'month') from employee; select round(to_date(dob),'year') from employee; select round(to_date(dob),'day') from employee;

3.17 select(sysdate-60) from dual;

3.18 select ENAME ,SAL , SAL+0.15* SAL from EMPLOYEE;

3.19 select ENAME from EMPLOYEE where ENAME like 'B%' or ENAME like 'C%';

3.20 select ENAME,SAL,MGR from EMPLOYEE where SAL in (select min(SAL) from EMPLOYEE group by MGR);

3.21 select dname, count (ename) from employee, dept where employee.deptno=department.deptno group by dname;

3.22 select ename from employee where length (ename) <=5;

3.23 select ename from employee where mgr in(7602,7566,7789);

3.24 select count (distinct job) from employee;

3.25 select max(sal)-min(sal) from employee;

3.26 select count(distinct deptno) from employee;

3.27 select ename , dob from employee where to_char (dob,'MON')='FEB';

3.28 select ename from employee where to_char(dob,'MON') like to_char (sysdate, 'MON');

3.29 select ENAME from EMPLOYEE where ENAME LIKE ('s%h')

3.30 select ename from employee where sal>5000;

Problem 4.1: Select all employees from ‘maintainance’ and ‘development’ dept.

SQL> select ENAME,DNAME from EMP,DEPT where emp.deptno=dept.deptno and (DNAME='MAINTAINANCE' OR DNAME='DEVELOPMENT');

ENAME	DNAME
ASANT	DEVELOPMENT
FORD	DEVELOPMENT
JONES	DEVELOPMENT
SMITH	DEVELOPMENT
ALLEY	MAINTAINANCE
DRANK	MAINTAINANCE
WARD	MAINTAINANCE
ALLEN	MAINTAINANCE
BLAKE	MAINTAINANCE

9 rows selected.

Problem 4.2: Display all employee names and salary whose salary is greater than minimum salary of the company and job title starts with ‘M’.

SQL> select ename,sal from emp where sal>(select min(sal)from emp) and job like ('M%');

ENAME	SAL
JONES	5975
BLAKE	9850

Problem 4.3: Issue a query to find all the employees who work in the same job as jones.

SQL> select ename from emp where job=(select job from emp where ename='JONES')and ename not in ('JONES');

ENAME

BLAKE

Problem 4.4: Issue a query to display information about employees who earn more than any employee in dept 30.

SQL> select * from emp where sal>(select max(sal) from emp where deptno=30);

EMPNO ENAME JOB MGR DEPTNO

---------- ---------- ---------- ---------- ----------

SAL COMMISSION DOB

---------- ---------- ---------

7839 CLARK CEO

10

9900 16-MAR-72

Problem 4.5: Display the employees who have the same job as jones and whose salary >= fords.

SQL> select ename from emp where job=(select job from emp where ename='JONES') and sal>=(select sal from emp where ename='FORD') and ename not in ('JONES');

ENAME

BLAKE

Problem 4.6: Write a query to display the name and job of all employees in dept 20 who have a job that someone in the Management dept as well.

SQL> select ename,job from emp where deptno=20 and job in(select job from dept,emp where dept.deptno=emp.deptno and dname = 'management');

no rows selected

Problem 4.7: Issue a query to list all the employees who salary is > the average salary of their own dept.

SQL> select ename,deptno,sal from emp e1 where sal > (select avg(sal) from emp e2 where e1.deptno=e2.deptno);

ENAME	DEPTNO	SAL
JONES	20	5975
BLAKE	30	9850
CLARK	10	9900

Problem 4.8: Write a query that would display the empname, job where each employee works and the name of their dept.

SQL> select ename,deptno,sal from emp e1 where sal > (select avg(sal) from emp e2 where e1.deptno=e2.deptno);

ENAME	DEPTNO	SAL
JONES	20	5975
BLAKE	30	9850
CLARK	10	9900

Problem 4.9: Write a query to list the employees having the same job as employees located in ‘ mainblock’.(use multiple subquery)

SQL> select ename from emp where job in(select job from emp,dept where emp.deptno=dept.deptno and loc='MAIN BLOCK') and deptno not in (select deptno from dept where loc='MAIN BLOCK');

ENAME
ASANT
SMITH

JONES

Problem 4.10: Write a query to list the employees in dept 10 with the same job as anyone in the development dept.

SQL> select ename from emp where deptno=10 and job in(select job from emp,dept where emp.deptno=dept.deptno and dname='DEVELOPMENT');

no rows selected

Problem 4.11: Write a query to list the employees with the same job and salary as ‘ford’.

SQL> select ename from emp where job=(select job from emp where ename='FORD') and sal=(select sal from emp where ename='FORD') and ename not in ('FORD');

no rows selected

Problem 4.12: Write a query to list all depts. with at least 2 salesman.

SQL> select dname from dept where (select count(*) from emp where job='SALESMAN' and dept.deptno=emp.deptno) >= 2;

DNAME

MAINTAINANCE

Problem 4.13: Write a query to list the employees in dept 20 with the same job as anyone in dept 30.

SQL> select ename from emp where deptno=20 and job in(select job from emp where deptno=30);

ENAME

ASANT

JONES

SMITH

Problem 4.14: List out the employee names who get the salary greater than the maximum salaries of dept with dept no 20,30

SQL> select ename from emp where sal>(select max(sal) from emp where deptno=20 or deptno=30);

ENAME

CLARK

Problem 4.15: Display the maximum salaries of the departments whose maximum salary is greater than 9000.

SQL> select max(sal),dname from emp,dept where emp.deptno=dept.deptno and sal > 9000 group by dname;

MAX(SAL) DNAME

---------- ----------

9850 MAINTAINANCE

9900 MANAGEMENT

Problem 4.16: Display the maximum salaries of the departments whose minimum salary is greater than 1000 and lesser than 5000.

SQL> select max(sal),dname from emp,dept where emp.deptno=dept.deptno having min(sal)>1000 and min(sal)<5000 group by dname;

MAX(SAL) DNAME

---------- ----------

9850 MAINTAINANCE

9900 MANAGEMENT

JOINS

Create the following table : AccDept.(Accredited Department by quality council)

SQL> create table accdept as select * from dept where deptno in (10,20,30);

Table created.

Problem 4.17: Display the departments that are accredited by the quality council

SQL> select dept.dname from dept,accdept where dept.deptno=accdept.deptno;

DNAME

MANAGEMENT

DEVELOPMENT

MAINTAINANCE

Problem 4.17: Display the departments that are accredited by the quality council.

SQL> select ename from emp where deptno in (select deptno from dept where dname not in (select dept.dname from dept,accdept where dept.deptno=accdept.deptno));

no rows selected

Problem 4.18: Display the employees of departments which are not accredited by the quality council

SQL> select ename,dname from emp left join dept on emp.deptno=dept.deptno;

ENAME	DNAME
CLARK	MANAGEMENT
SCOTT	MANAGEMENT
FORD	DEVELOPMENT
JONES	DEVELOPMENT
ASANT	DEVELOPMENT
SMITH	DEVELOPMENT
DRANK	MAINTAINANCE
ALLEY	MAINTAINANCE
BLAKE	MAINTAINANCE
WARD	MAINTAINANCE
ALLEN	MAINTAINANCE

11 rows selected.

Problem 4.19: Display all the employees and the departments implementing a left outer join.

SQL> select ename,dname from emp right join dept on emp.deptno=dept.deptno;

ENAME DNAME

---------- ----------

CLARK MANAGEMENT

SCOTT MANAGEMENT

ASANT DEVELOPMENT

FORD DEVELOPMENT

JONES DEVELOPMENT

SMITH DEVELOPMENT

ALLEY MAINTAINANCE

DRANK MAINTAINANCE

WARD MAINTAINANCE

ALLEN MAINTAINANCE

BLAKE MAINTAINANCE

ENAME DNAME

---------- ----------

TRANSPORT

SALES

13 rows selected.

Problem 4.20: Display the employee name and department name in which they are working implementing a right outer join.

SQL> select ename,dname from emp full outer join dept on emp.deptno=dept.deptno;

ENAME DNAME

---------- ----------

SMITH DEVELOPMENT

ASANT DEVELOPMENT

ALLEN MAINTAINANCE

WARD MAINTAINANCE

JONES DEVELOPMENT

BLAKE MAINTAINANCE

SCOTT MANAGEMENT

CLARK MANAGEMENT

FORD DEVELOPMENT

ALLEY MAINTAINANCE

DRANK MAINTAINANCE

ENAME DNAME

---------- ----------

SALES

TRANSPORT

13 rows selected.

Problem 4.21: Display the employee name and department name in which they are working implementing a full outer join.

SQL> select a.ename as employee,b.ename as manager from emp a,emp b where a.mgr=b.empno;

EMPLOYEE MANAGER

---------- ----------

SMITH JONES

ASANT JONES

ALLEY BLAKE

ALLEN BLAKE

WARD BLAKE

DRANK BLAKE

SCOTT CLARK

BLAKE CLARK

JONES CLARK

9 rows selected.

Problem 4.22: Write a query to display their employee names and their managers name.

SQL> select a.ename as employee,b.sal as manager_salary from emp a,emp b where a.mgr=b.empno;

EMPLOYEE MANAGER_SALARY

---------- --------------

SMITH 5975

ASANT 5975

ALLEY 9850

ALLEN 9850

WARD 9850

DRANK 9850

SCOTT 9900

BLAKE 9900

JONES 9900

9 rows selected.

Problem 4.23: Write a query to display their employee names and their managers salary for every employee .

SQL> select ename,job,empno,dname,loc from emp,dept where emp.deptno=dept.deptno;

ENAME JOB EMPNO DNAME

---------- ---------- ---------- ----------

LOC

CLARK CEO 7839 MANAGEMENT

MAIN BLOCK

SCOTT HOD 7611 MANAGEMENT

MAIN BLOCK

ASANT SALESMAN 7399 DEVELOPMENT

MANUFACTURING UNIT

ENAME JOB EMPNO DNAME

---------- ---------- ---------- ----------

LOC

FORD SUPERVISOR 7368 DEVELOPMENT

MANUFACTURING UNIT

JONES MANAGER 7566 DEVELOPMENT

MANUFACTURING UNIT

SMITH CLERK 7369 DEVELOPMENT

MANUFACTURING UNIT

ENAME JOB EMPNO DNAME

---------- ---------- ---------- ----------

LOC

ALLEY SALESMAN 7599 MAINTAINANCE

MAIN BLOCK

DRANK CLERK 7421 MAINTAINANCE

MAIN BLOCK

WARD SALESMAN 7521 MAINTAINANCE

MAIN BLOCK

ENAME JOB EMPNO DNAME

---------- ---------- ---------- ----------

LOC

ALLEN SALESMAN 7499 MAINTAINANCE

MAIN BLOCK

BLAKE MANAGER 7698 MAINTAINANCE

MAIN BLOCK

11 rows selected.

Problem 4.24: Write a query to output the name , job, empno, deptname and location for each dept, even if there are no employees.

SQL> select a.empno,a.ename as employee,a.job,b.ename as manager from emp a,emp b where a.mgr=b.empno;

EMPNO EMPLOYEE JOB MANAGER

---------- ---------- ---------- ----------

7369 SMITH CLERK JONES

7399 ASANT SALESMAN JONES

7599 ALLEY SALESMAN BLAKE

7499 ALLEN SALESMAN BLAKE

7521	WARD	SALESMAN	BLAKE
7421	DRANK	CLERK	BLAKE
7611	SCOTT	HOD	CLARK
7698	BLAKE	MANAGER	CLARK
7566	JONES	MANAGER	CLARK

9 rows selected.

Problem 4.25: Find the name of the manager for each employee. Include the following in the output: empno, empname, job and his manager's name.

SQL> select ename from emp where sal in (select sal from emp group by sal having count(*)>1);

ENAME

DRANK

WARD

FORD

SMITH

ALLEY

ALLEN

ASANT

7 rows selected.

Problem 5.1: Display all the dept numbers available with the dept and accdept tables avoiding duplicates.

SOLUTION:-
select (DEPTNO) from dept union select (DEPTNO) from accdept;

Problem 5.2: Display all the dept numbers available with the dept and accdept tables.

SOLUTION:-
select DISTINCT(DEPTNO) from dept union all select DISTINCT(DEPTNO) from accdept;

Problem 5.3: Display dept no available in both the dept and acc dept tables.
SOLUTION:-
select (DEPTNO) from dept intersect select (DEPTNO) from accdept;

Problem 5.4: Display all the dept numbers available in dept and not in accdept tables.

SOLUTION:-

Problem 5.5: The organization wants to display only the details of the employees those who are managers.(horizontal portioning)

SOLUTION:-
create view sak as select * from emp where JOB='MANAGER';

Problem 5.6: The organization wants to display only the details

like empno,empname,deptno,deptname of the employees .
(vertical portioning)

SOLUTION:-create view sak1 as(select EMPNO,ENAME,DEPTNO,DNAME from Emp NATURAL JOIN dept);

Problem 5.7: The organization wants to display only the details like empno,empname,deptno,deptname of the all the employees except the HOD and CEO. (full portioning)

SOLUTION:-create view hpp as(select EMPNO,ENAME,DEPTNO,DNAME from emp natural join dept where job NOT IN('HOD','CEO'));

Problem 5.8: Display all the views generated.

SOLUTION:-select * from sak;
select * from sak1;
select * from hpp;

Problem 5.9: Execute the DML commands on the view created.

SOLUTION:-

Problem 5.10: Drop a view.

SOLUTION:- drop view sak;
drop view sak1;
drop view hpp;

Program 6.1:write a pl/sql program to swap two numbers with out taking third variable

SOLUTION:-

```
SQL>  set serveroutput on
SQL>  declare
  2     num1 number;
  3     num2 number;
  4     begin
  5     num1:=1000;
  6     num2:=2000;
  7     num1:=num1+num2;
  8     num2:=num1-num2;
  9     num1:=num1-num2;
 10      dbms_output.put_line('num1 =' || num1);
 11      dbms_output.put_line('num2 =' || num2);
 12      end;
 13      /
```

Program 6.2:write a pl/sql program to swap two numbers by taking third variable

SOLUTION:-

```
SQL>  set serveroutput on
SQL>  declare
  2     num1 number;
  3     num2 number;
  4     temp number;
  5     begin
  6     num1:=1000;
  7     num2:=2000;
  8     temp:=num1;
  9     num1:=num2;
 10      num2:=temp;
 11      dbms_output.put_line('num1 =' || num1);
 12      dbms_output.put_line('num2 =' || num2);
 13      end;
 14      /
```

Program 6.3: Write a pl/sql program to find the largest of two numbers

SOLUTION:- SQL> set serveroutput on

```
SQL>  declare
  2     num1 number;
  3     num2 number;
  4     begin
  5     num1:=&number;
  6     num2:=&number;
  7     if num1>num2 then
  8     dbms_output.put_line(num1);
  9     else
 10      dbms_output.put_line(num2);
 11       END if;
 12  end;
 13      /
```

Program 6.4:write a pl/sql program to find the total and average of 6 subjects and display the grade

SOLUTION:-set serveroutput on

```
declare
        num1 number;
        num2 number;
        num3 number;
        num4 number;
        num5 number;
        num6 number;
num7 number;
num8 number;
begin
        num1:=&number;
        num2:=&number;
        num3:=&number;
        num4:=&number;
        num5:=&number;
        num6:=&number;
num7:=num1+num2+num3+num4+num5+num6;
num7:=num7/6;
dbms_output.put_line(num7);
if num7>90 then
dbms_output.put_line('S');
elsif num7>80 then
dbms_output.put_line('A');
elsif num7>70 then
dbms_output.put_line('B');
elsif num7>60 then
dbms_output.put_line('C');
elsif num7>50 then
dbms_output.put_line('D');
elsif num7>40 then
dbms_output.put_line('E');
else
dbms_output.put_line('F');
end if;
end;
/
```

Program 6.5:Write a pl/sql program to find the sum of digits in a given number

SOLUTION:-

```
set serveroutput on
declare
        num1 number;
        num2 number;
        p number;
```

```
begin
        num1:=&number;
     num2:=0;
while num1>0
loop
  p:=MOD(num1,10);
  num2:=num2+p;
  num1:=TRUNC(num1/10);
end loop;
dbms_output.put_line(num2);
end;
/
```

Program 6.6:write a pl/sql program to display the number in reverse order

SOLUTION:-

```
set serveroutput on
declare
        num1 number;
        num2 number;
        p number;
begin
        num1:=&number;
     num2:=0;
while num1>0
loop
  p:=MOD(num1,10);
  num2:=num2*10;
  num2:=num2+p;
  num1:=TRUNC(num1/10);
end loop;
dbms_output.put_line(num2);
end;
/
```

Program 6.7:Write a pl/sql program to check whether the given number is prime or not

SOLUTION:-

7.1) Write a procedure to add an amount of Rs.1000 for the employees whose salaries

is greater than 5000 and who belongs to the deptno passed as an argument.

select * from employee;

empid	empname	empsal	deptid	deptname
1	anil	4000	10	physics
2	mukesh	5000	20	chemistry
3	mohan	6000	30	maths
4	shyam	3000	40	english
5	john	7000	50	hindi

```
Create [or Replace] PROCEDURE employee
(empid IN employee.empid%TYPE) IS
BEGIN
update employee set empsal = empsal+1000
select From employee
where deptid >20;
```

select *from employee;

empid	empname	empsal	deptid	deptname
1	anil	4000	10	physics
2	mukesh	5000	20	chemistry
3	mohan	7000	30	maths
4	shyam	4000	40	english
5	john	8000	50	hindi

7.2) 7.2 Write a PL/SQL block to update the salary of the employee with a 10% increase

whose empno is to be passed as an argument for the procedure.

sol) select *from employee;

empid	empname	empsal	deptid	deptname
1	anil	4000	10	physics
2	mukesh	5000	20	chemistry
3	mohan	7000	30	maths
4	shyam	4000	40	english
5	john	8000	50	hindi

```
Create [or Replace] PROCEDURE employee
(empid IN employee.empid%TYPE) IS
BEGIN
update employee   set empsal = empsal+(empsal*10)/100
select From employee
```

where deptid >20;

after updation..

empid	empname	empsal	deptid	deptname
1	anil	4000	10	physics
2	mukesh	5000	20	chemistry
3	mohan	7700	30	maths
4	shyam	4400	40	english
5	john	8800	50	hindi

7.3) Write a function to find the salary of the employee who is working in the deptno

20(to be passed as an argument).

sol) Create [or Replace] PROCEDURE employee

(empid IN employee.empid%TYPE) IS

BEGIN

select empsal From employee

where deptid =20;

empsal

5000

7.4) Write a function to find the nature of job of the employee whose deptno is 20(to be

passed as an argument)

sol) Create [or Replace] PROCEDURE employee

(empid IN employee.empid%TYPE) IS

BEGIN

select deptname From employee

where deptid =20;

deptname

chemistry

7.5) Write a PL/SQL block to obtain the department name of the employee who works

for deptno 30.

sol) Create [or Replace] PROCEDURE employee

(empid IN employee.empid%TYPE) IS

BEGIN

select deptname From employee

where deptid =30;

deptname

maths

8.1

```
CREATE OR RELPLACE TRIGGER trig1 before insert on DEPT for each row DECLARE a number;
BEGIN
        if(:new.DEPTNO is Null) then
                raise_application_error(-20001,'error:: DEPTNO cannot be null');
        else
                select count(*) into a from DEPT where DEPTNO =:new.DEPTNO;
                if(a=1) then
                        raise_application_error(-20002,'error:: cannot have duplicate DEPTNo
                ');
                end if;
        end if;
END;
```

8.2

```
CREATE [OR REPLACE] TRIGGER trig2 After delete on DEPT FOR EACH ROW
BEGIN
        DELETE FROM emp WHERE emp.deptno=:new.deptno;
END;
```

8.3

```
CREATE TRIGGER trig3 AFTER DELETE ON emp FOR EACH ROW
BEGIN
```

```
        INSERT INTO log(val1, val2, ...) VALUES (old.val1, old.val2, ...);
END;
```