**NAME :- SUMIT PATIL**

**ROLL NO. :- 205119101**

**SUBJECT :- DBMS LAB**

**SUBMITTED TO :- Dr. U. VIGNESH**

**QUESTION NUMBER 1**

1.1 CREATE TABLE EMP (EMPNO NUMBER(6),EMPNAME VARCHAR(20) NOT NULL,JOB VARCHAR(10) NOT NULL,MGR NUMBER(8),DEPTNO NUMBER(6),SAL NUMBER(7,2));

1.2 ALTER TABLE EMP ADD COMMI NUMBER(5);

1.3 ALTER TABLE EMP MODIFY JOB VARCHAR(12);

1.4 CREATE TABLE DEPT (DEPTNO NUMBER(5) PRIMARY KEY,DNAME VARCHAR(20),DLOC VARCHAR(20));

1.5 ALTER TABLE EMP MODIFY EMPNO INT PRIMARY KEY;

ALTER TABLE DEPT ADD FOREIGN KEY(DEPTNO) REFERENCES DEPT(DEPTNO;

1.6 ALTER TABLE EMP ADD CHECK(EMPNO>100);

1.7 ALTER TABLE EMP MODIFY SAL FLOAT DEFAULT 5000 NOT NULL;

1.8 ALTER TABLE EMP ADD DOB DATE;

**QUESTION NUMBER 2**

2.1 INSERT INTO DEPT VALUES(10,'MANAGEMENT','MAIN BLOCK');

INSERT INTO DEPT VALUES(20,'DEVELOPMENT','MANUFACTURING UNIT');

INSERT INTO DEPT VALUES(30,'MAINTAINANCE','MAIN BLOCK');

INSERT INTO DEPT VALUES(40,'TRANSPORT','ADMIN BLOCK');

INSERT INTO DEPT VALUES(50,'SALES','HEAD OFFICE');

2.2 INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7369,'SMITH','CLERK',7566,'17-DEC80',800,0,20);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7399,'ASANT','SALESMAN',7566,'20-FEB81',1600,300,20);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7499,'ALLEN','SALESMAN',7698,'20-FEB81',1600,300,30);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7521,'WARD','SALESMAN',7698,'22-FEB82',1250,500,30);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7566,'JONES','MANAGER',7839,'02-APR81',5975,500,20);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7698,'BLAKE','MANAGER',7839,'01-MAY79',9850,1400,30);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7611,'SCOTT','HOD',7839,'12-JUN76',3000,NULL,10);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB ,MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7839,'CLARK','CEO',NULL,'16-MAR72',9900,NULL,10);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7368,'FORD','SUPERVIS',7366,'17-DEC80',800,0,20);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7599,'ALLEY','SALESMAN',7698,'20-FEB81',1600,300,30);

INSERT INTO EMP(EMPNO, EMPNAME ,JOB, MGR ,DOB ,SAL ,COMMI, DEPTNO) VALUES(7421,'DRANK','CLERCK',7698,'22-JAN82',1250,500,30);

2.3 UPDATE EMP SET COMMI=1000 WHERE JOB='MANAGER';

2.4 CREATE TABLE EMPLOYEE (EMPNO INTEGER PRIMARY KEY,ENAME VARCHAR(20) NOT NULL,JOB VARCHAR(30) NOT NULL,MGR INTEGER,DEPTNO INTEGER,SAL INTEGER,COMM INTEGER,DOB VARCHAR(10));

INSERT INTO EMPLOYEE SELECT\*FROM EMP;

2.5 DELETE FROM EMPLOYEE WHERE JOB='SUPERVIS';

2.6 DELETE FROM EMPLOYEE WHERE EMPNO=7599;

2.7 SELECT \* FROM EMP ORDER BY SAL;

2.8 SELECT \* FROM EMP ORDER BY SAL DESC;

2.9 SELECT \* FROM EMP WHERE DEPTNO=30;

2.10 SELECT DISTINCT DEPTNO FROM EMP;

2.11 SELECT \* FROM EMP ORDER BY EMPNAME;

2.12 create table manager as select \* from EMP where JOB='MANAGER';

2.13 select \* from emp where commi IS null;

2.14 SELECT ENAME,DNAME FROM EMP,DEPT WHERE E.DEPTNO=D.DEPTNO;

**QUESTION NUMBER 3**

3.1 select \* from EMP where DEPTNO in (20,10);

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 EMP;

3.7 SELECT COUNT(\*) FROM EMP;

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

3.9 select min(SAL) AS MIN\_SAL, MAX(SAL) AS MAX\_SAL from EMP;

3.10 SELECT SUM(SAL) FROM EMP;

3.11 SELECT JOB,SUM(SAL) FROM EMP 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 EMP;

3.14 select add\_months(DOB,2) from EMP;

3.15 select last\_day('05-oct-09') from dual;

3.16 select round(to\_date(dob),'month') from emp;

select round(to\_date(dob),'year') from emp;

select round(to\_date(dob),'day') from emp;

3.17 select(sysdate-60) from dual;

3.18 select EMPNAME ,SAL , SAL+0.15\* SAL from EMP;

3.19 select EMPNAME from EMP where Empname like 'B%' or Empname like 'C%';

3.20 select EMPNAME,SAL,MGR from EMP where SAL in (select min(SAL) from EMP group by MGR);

3.21 select dname, count (empname) from emp, dept where emp.deptno=dept.deptno group by dname;

3.22 select empname from emp where length(empname)<=5;

3.23 select empname from emp where mgr in (7399,7698,7566);

3.24 SELECT COUNT(DISTINCT JOB)FROM EMP;

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

3.26 select count(distinct deptno) from emp;

3.27 select empname,dob from emp where to\_char(dob,'mon')='feb';

3.28 select EMPname from EMP where to\_char(dob,'MON') like to\_char(sysdate, 'MON');

3.29 select empname from emp where empname like 'S%H';

3.30 select empname from emp where sal>5000;

**QUESTION NUMBER 4**

4.1 SELECT \* FROM EMP,DEPT WHERE EMP.DEPTNO=DEPT.DEPTNO AND (DEPT.DNAME='MAINTAINANCE' OR DEPT.DNAME='DEVELOPMENT');

4.2 SELECT EMPNAME,SAL FROM EMP WHERE SAL>(SELECT MIN(SAL) FROM EMP) AND JOB LIKE 'M%';

4.3 SELECT \* FROM EMP WHERE JOB=(SELECT JOB FROM EMP WHERE EMPNAME='JONES');

4.4 SELECT \* FROM EMP WHERE SAL>(SELECT MAX(SAL) FROM EMP WHERE DEPTNO=30);

4.5 SELECT \* FROM EMP WHERE JOB=(SELECT JOB FROM EMP WHERE EMPNAME='JONES') AND SAL>=(SELECT SAL FROM EMP WHERE EMPNAME='FORD');

4.6 SELECT EMPNAME,JOB FROM EMP WHERE DEPTNO=20 AND JOB=ANY(SELECT JOB FROM EMP E,DEPT D WHERE E.DEPTNO=D.DEPTNO AND D.DNAME='MANAGEMENT');

4.7 SELECT \* FROM EMP OUTER WHERE SAL>(SELECT AVG(SAL) FROM EMP WHERE DEPTNO=OUTER.DEPTNO);

4.8 SELECT EMPNAME,JOB,DNAME FROM EMP E,DEPT D WHERE E.DEPTNO=D.DEPTNO;

4.9 SELECT \* FROM EMP WHERE JOB=ANY(SELECT E.JOB FROM DEPT D,EMP E WHERE D.DEPTNO=E.DEPTNO AND DLOC='MAIN BLOCK') AND DEPTNO!=(SELECT DEPTNO FROM DEPT WHERE DLOC='MAIN BLOCK');

4.10 SELECT \* FROM EMP WHERE DEPTNO=10 AND JOB=ANY(SELECT JOB FROM EMP,DEPT WHERE DEPT.DEPTNO=EMP.DEPTNO AND DEPT.DNAME='DEVELOPMENT');

4.11 SELECT \* FROM EMP WHERE JOB=(SELECT JOB FROM EMP WHERE EMPNAME='FORD') AND SAL=(SELECT SAL FROM EMP WHERE EMPNAME='FORD');

4.12 SELECT DNAME FROM DEPT WHERE DEPTNO=ANY(SELECT DEPTNO FROM (SELECT COUNT(JOB) AS NO,DEPTNO FROM EMP WHERE JOB='SALESMAN' GROUP BY DEPTNO) WHERE NO>=2);

//OR

SELECT DNAME FROM DEPT D WHERE 2<=(SELECT COUNT(EMPNAME) FROM EMP WHERE JOB='SALESMAN' AND DEPTNO=D.DEPTNO);

4.13 SELECT \* FROM EMP WHERE DEPTNO=20 AND JOB=ANY(SELECT JOB FROM EMP WHERE DEPTNO=30);

4.14 SELECT \* FROM EMP WHERE SAL>ANY(SELECT MAX(SAL) FROM EMP WHERE DEPTNO=20 OR DEPTNO=30 GROUP BY DEPTNO);

4.15 SELECT MAX(SAL) FROM EMP GROUP BY DEPTNO HAVING MAX(SAL)>9000;

4.16 SELECT MAX(SAL) FROM EMP GROUP BY EMPNAME HAVING MIN(SAL)>1000 AND MIN(SAL)<5000;

**//extra table creation**

CREATE TABLE ACCDEPT (DEPTNO NUMBER(4),DNAME VARCHAR(15),DCITY VARCHAR(20));

INSERT ALL INTO ACCDEPT (DEPTNO, DNAME,DCITY) VALUES(10,'MANAGEMENT','MAIN BLOCK') INTO ACCDEPT (DEPTNO, DNAME,DCITY) VALUES(20,'DEVELOPMENT','MANUFACTURING UNIT') INTO ACCDEPT (DEPTNO, DNAME,DCITY) VALUES(30,'MAINTAINANCE','MAIN BLOCK') SELECT 1 FROM DUAL;

4.17 SELECT A.DNAME FROM DEPT D,ACCDEPT A WHERE D.DEPTNO=A.DEPTNO;

4.18 SELECT EMPNAME FROM EMP WHERE DEPTNO!=ANY(SELECT DEPTNO FROM ACCDEPT);

4.19 SELECT \* FROM EMP LEFT JOIN DEPT ON DEPT.DEPTNO=EMP.DEPTNO;

4.20 SELECT \* FROM EMP RIGHT JOIN DEPT ON DEPT.DEPTNO=EMP.DEPTNO;

4.21 SELECT \* FROM EMP FULL JOIN DEPT ON DEPT.DEPTNO=EMP.DEPTNO;

4.22 SELECT E.EMPNAME,M.EMPNAME FROM EMP E,EMP M WHERE E.MGR=M.EMPNO;

4.23 SELECT E.EMPNAME,M.SAL FROM EMP E,EMP M WHERE E.MGR=M.EMPNO;

4.24 SELECT E.EMPNAME,E.JOB,E.EMPNO,D.DNAME,D.DLOC FROM EMP E, DEPT D WHERE E.DEPTNO=E.DEPTNO AND D.DEPTNO=E.DEPTNO;

4.25 SELECT E.EMPNO,E.EMPNAME,E.JOB,M.EMPNAME FROM EMP E,EMP M WHERE E.MGR=M.EMPNO;

4.26 SELECT E.EMPNAME,P.EMPNAME FROM EMP E,EMP P WHERE E.SAL=P.SAL AND E.EMPNAME!=P.EMPNAME;

**QUESTION NUMBER 5**

5.1 SELECT DEPTNO FROM DEPT UNION SELECT DEPTNO FROM ACCDEPT;

5.2 SELECT DEPTNO FROM DEPT UNION ALL SELECT DEPTNO FROM ACCDEPT;

5.3 SELECT DEPTNO FROM DEPT INTERSECT SELECT DEPTNO FROM ACCDEPT;

5.4 SELECT DEPTNO FROM DEPT MINUS SELECT DEPTNO FROM ACCDEPT;

5.5 CREATE VIEW MANAGERS AS SELECT \* FROM EMP WHERE JOB='MANAGER';

SELECT \* FROM MANAGERS;

5.6 VIEW GENERAL AS SELECT ENAME,EMPNO,DNAME FROM EMP,DEPT WHERE DEPT.DEPTNO=EMP.DEPTNO;

5.7 CREATE VIEW EMP\_ALL AS SELECT E.EMPNO,E.EMPNAME,D.DEPTNO,D.DNAME FROM EMP E, DEPT D WHERE E.DEPTNO=D.DEPTNO AND E.JOB NOT IN('HOD','CEO');

SELECT \* FROM EMP\_ALL;

5.8 SELECT \* FROM GENERAL;

SELECT \* FROM EMP\_ALL ;

5.9 DROP VIEW EMP\_ALL;

5.10 DROP VIEW MANAGERS;

**QUESTION NUMBER 6**

**--6.1**

declare

a number(10);

b number(10);

begin

a:=&a;

b:=&b;

dbms\_output.put\_line('THE PREV VALUES OF A AND B WERE');

dbms\_output.put\_line(a);

dbms\_output.put\_line(b);

a:=a+b;

b:=a-b;

a:=a-b;

dbms\_output.put\_line('THE VALUES OF A AND B ARE');

dbms\_output.put\_line(a);

dbms\_output.put\_line(b);

end;

/

**--6.2**

declare

a number(10);

b number(10);

c number(10);

begin

a:=&a;

b:=&b;

dbms\_output.put\_line('THE PREV VALUES OF A AND B WERE');

dbms\_output.put\_line(a);

dbms\_output.put\_line(b);

c:=a;

a:=b;

b:=c;

dbms\_output.put\_line('THE VALUES OF A AND B ARE');

dbms\_output.put\_line(a);

dbms\_output.put\_line(b);

end;

/

**--6.3**

declare

a number;

b number;

begin

a:=&a;

b:=&b;

if a=b then

dbms\_output.put\_line('BOTH ARE EQUAL');

elsif a>b then

dbms\_output.put\_line('A IS GREATER');

else

dbms\_output.put\_line('B IS GREATER');

end if;

end;

/

**--6.4**

declare

java number(10);

dbms number(10);

co number(10);

se number(10); es

number(10); ppl

number(10); total

number(10); avgs

number(10); per

number(10);

dbms\_output.put\_line('ENTER THE MARKS');

begin

java:=&java;

dbms:=&dbms;

co:=&co;

se:=&se;

es:=&es;

ppl:=&ppl;

total:=(java+dbms+co+se+es+ppl);

per:=(total/600)\*100;

if java<40 or dbms<40 or co<40 or se<40 or es<40 or ppl<40 then

dbms\_output.put\_line('FAIL');

elsif per>75 then

dbms\_output.put\_line('GRADE A');

elsif per>65 and per<75 then

dbms\_output.put\_line('GRADE B');

elsif per>55 and per<65 then

dbms\_output.put\_line('GRADE C');

else

dbms\_output.put\_line('INVALID INPUT');

end if;

dbms\_output.put\_line('PERCENTAGE IS '||per);

dbms\_output.put\_line('TOTAL IS '||total);

end;

/

**--6.5**

declare

a number;

d number:=0;

sum1 number:=0;

begin

a:=&a;

while a>0

loop

d:=mod(a,10);

sum1:=sum1+d;

a:=trunc(a/10);

end loop;

dbms\_output.put\_line('SUM = '|| sum1);

end;

/

**--6.6**

declare

a number;

rev number;

d number;

begin

a:=&a;

rev:=0;

while a>0

loop

d:=mod(a,10);

rev:=(rev\*10)+d;

a:=trunc(a/10);

end loop;

dbms\_output.put\_line('REVERSE NUMBER = '|| rev);

end;

/

**--6.7**

declare

a number;

c number:=0;

i number;

begin

a:=&a;

for i in 1..a

loop

if mod(a,i)=0 then

c:=c+1;

end if;

end loop;

if c=2 then

dbms\_output.put\_line(a ||' is a prime number');

else

dbms\_output.put\_line(a ||' is not a prime number');

end if;

end;

/

**--6.8**

declare

n number;

f number:=1;

begin

n:=&n;

for i in 1..n

loop

f:=f\*i;

end loop;

dbms\_output.put\_line('Factorial '|| n ||' is '|| f);

end;

/

**--6.9**

create table areas(radius number(10),area number(6,2));

declare

pi constant number(4,2):=3.14;

radius number(5):=3;

area number(6,2);

begin

while radius<7 loop

area:=pi\*power(radius,2);

insert into areas values(radius,area);

radius:=radius+1;

end loop;

end;

/

**--6.10**

create table acct(name varchar2(10),cur\_bal number(10),acctno number(6,2));

insert into stud values('&sname',&rollno,&marks);

select \* from acct;

declare

mano number(5);

mcb number(6,2);

minibal constant number(7,2):=1000.00;

fine number(6,2):=100.00;

begin

mano:=&mano;

select cur\_bal into mcb from acct where acctno=mano;

if mcb<minibal then

update acct set cur\_bal=cur\_bal-fine where acctno=mano;

end if;

end;

/

**QUESTION NUMBER 7**

7.1 create or replace procedure salary(deptid number) as

begin

update emp set sal=sal+1000 where sal>5000 AND deptno=deptid;

end;

7.2 create or replace procedure salary1(empid number) as

begin

update emp set sal=sal+sal\*(0.1) where empno=empid;

end;

7.3 create or replace procedure get\_sal(dept number) as

begin

for s in (select \* from emp where deptno = dept)

loop

dbms\_output.put\_line(s.sal);

end loop;

end;

7.4 create or replace procedure get\_nature(dept number) as

begin

for s in (select \* from emp where deptno = dept)

loop

dbms\_output.put\_line(s.job);

end loop;

end;

7.5 create or replace procedure dep\_name(deptid number) as

begin

select dept.dname from dept,emp where emp.deptno=dept.deptno;

end;

7.5 write a function to find nature of job of the employee whose department number is 20.

create or replace procedure get\_nature(dept number) as

begin

for s in (select \* from emp where deptno = dept)

loop

dbms\_output.put\_line(s.job);

end loop;

end;

/

exec get\_nature(20);

7.6 write a procedure to obtain the department name of the employee who works for department number 20.

create or replace procedure dep\_name

as

begin

select dept.dname from dept,emp where emp.deptno=dept.deptno;

end;

/

**QUESTION NUMBER 8**

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;