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**ROLL NO : 205119063**

**SUBJECT : DBMS LAB MANUAL**

**PROBLEM 1**

PROBLEM 1.1  
create table EMP(  
    EMPNO INT(6) NOT NULL PRIMARY KEY,  
    ENAME VARCHAR(20) NOT NULL,  
    JOB VARCHAR(10) NOT NULL,  
    MGR INT(4),  
    DEPTNO INT(4),  
    SAL FLOAT(7, 2)  
);  
----------------------------------------------------------  
PROBLEM 1.2  
ALTER TABLE EMP ADD COMMISSION INT;  
----------------------------------------------------------  
PROBLEM 1.3  
ALTER TABLE EMP MODIFY JOB VARCHAR(20);  
----------------------------------------------------------  
PROBLEM 1.4  
CREATE TABLE DEPT(  
DEPTNO INT(2) NOT NULL PRIMARY KEY,  
DNAME VARCHAR(50),  
LOC VARCHAR(50)  
);  
----------------------------------------------------------  
PROBLEM 1.5  
ALTER TABLE EMP ADD CONSTRAINT FK\_DEPTNO FOREIGN KEY (DEPTNO) REFERENCES DEPT(DEPTNO);  
----------------------------------------------------------  
PROBLEM 1.6  
ALTER TABLE EMP ADD CHECK (EMPNO > 100);  
----------------------------------------------------------  
PROBLEM 1.7  
ALTER TABLE EMP MODIFY SAL FLOAT(7,2) NOT NULL DEFAULT 5000;  
----------------------------------------------------------  
PROBLEM 1.8  
ALTER TABLE EMP ADD DOB DATE;  
----------------------------------------------------------  
----------------------------------------------------------

**PROBLEM 2**

PROBLEM 2.1  
INSERT INTO DEPT VALUES (10,'MANAGEMENT','MAIN BLOCK'),  
(20,'DEVELOPMENT','MAIN BLOCK'),  
(30,'MAINTAINANCE','MAIN BLOCK'),  
(40,'TRANSPORT','ADMIN BLOCK'),  
(50,'SALES','HEAD OFFICE');  
----------------------------------------------------------  
PROBLEM 2.2  
INSERT INTO EMP VALUES (7369,'SMITH','CLERK',7566,20,800,0,'1980-12-17'),  
      (7399,'ASANT','SALESMAN',7566,20,1600,300,'1981-02-20'),  
      (7499,'ALLEN','SALESMAN',7698,30,1600,300,'1981-02-20'),  
      (7521,'WARD','SALESMAN',7698,30,1250,500,'1982-02-22'),  
      (7566,'JONES','MANAGER',7839,20,5975,500,'1981-04-02'),  
      (7698,'BLAKE','MANAGER',7839,30,9850,1400,'1979-05-01'),  
      (7611,'SCOTT','HOD',7839,10,3000,NULL,'1976-07-12'),  
      (7839,'CLARK','CEO',NULL,20,800,0,'1972-03-16'),  
      (7368,'FORD','SUPERVIS',7366,20,800,0,'1980-12-12'),  
      (7599,'ALLEY','SALESMAN',7698,30,1600,300,'1981-02-20'),  
      (7421,'DRANK','CLERCK',7698,30,1250,500,'1982-01-22');  
----------------------------------------------------------  
PROBLEM 2.3  
UPDATE EMP SET COMMISSION = 1000 WHERE JOB = 'MANAGER';  
----------------------------------------------------------  
PROBLEM 2.4  
CREATE TABLE EMPPSEUDO AS SELECT \* FROM EMP;  
----------------------------------------------------------  
PROBLEM 2.5  
DELETE FROM EMP WHERE JOB = 'SUPERVISOR';  
----------------------------------------------------------  
PROBLEM 2.6  
DELETE FROM EMP WHERE EMPNO = 7599;  
----------------------------------------------------------  
PROBLEM 2.7  
SELECT \* FROM EMP ORDERBY SAL;  
----------------------------------------------------------  
PROBLEM 2.8  
SELECT \* FROM EMP ORDER BY SAL;  
----------------------------------------------------------  
PROBLEM 2.9  
SELECT \* FROM EMP WHERE DEPTNO = 30;  
----------------------------------------------------------  
PROBLEM 2.10  
SELECT DISTINCT DEPTNO FROM DEPT;  
----------------------------------------------------------  
PROBLEM 2.11  
SELECT \* FROM EMP ORDER BY ENAME;  
---------------------------------------------------------  
PROBLEM 2.12  
CREATE TABLE MANAGER AS SELECT \* FROM EMP WHERE JOB = 'MANAGER';  
---------------------------------------------------------  
PROBLEM 2.13  
SELECT \* FROM EMP WHERE COMMISSION = NULL;  
---------------------------------------------------------  
PROBLEM 2.14  
SELECT E.ENAME, D.DNAME FROM EMP E, DEPT D WHERE E.DEPTNO = D.DEPTNO;

**PROBLEM 1**

PROBLEM 3.1

select \* from emp where deptno in(7369,7499);

3.2

select \* from employee where empname like ‘s%’;

3.3

select \* from employee where empname 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) “min\_sal”, max(sal) “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(doj,’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 ename , sal , sal+0.15\* sal from emp;

3.19

select ename from emp where ename like ‘B%’ or ename like ‘C%’;

3.20

select ename, sal,mgr from emp where sal in (select min(sal) from emp group by mgr);

3.21

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

3.22

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

3.23

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

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 pname from programmer 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;

PROBLEM 4

4.1

select ENAME,DNAME from EMP,DEPT where DNAME='MAINTAINANCE' OR DNAME='DEVELOPMENT' ;

4.2

SELECT ename FROM emp WHERE sal >(SELECT MIN(saL)FROM emp) AND JOB LIKE ('M%');

4.3

SELECT ename FROM EMP WHERE job =( SELECT job FROM emp WHERE eNAME='JONES');

4.4

SELECT \* FROM emp WHERE sal >ANY( SELECT sal FROM emp WHERE DEPTNO=30 );

4.5

SELECT \* FROM EMP WHERE job =( SELECT job FROM emp WHERE eNAME='JONES') AND SAL>=( SELECT sal FROM emp WHERE ENAME='FORD');

4.6

SELECT ename, job FROM emp WHERE DEPTNO=10 AND JOB IN(SELECT JOB FROM emp,dept WHERE EMP.DEPTNO=DEPT.DEPTNO AND Dname='MANAGEMENT');

4.7

SELECT \* FROM emp WHERE sal >(SELECT AVG(SAL)FROM emp);

4.8

SELECT ENAME,JOB,DNAME FROM EMP,DEPT WHERE EMP.DEPTNO=DEPT.DEPTNO;

4.9

SELECT \* FROM EMP WHERE job in (SELECT job FROM emp,dept WHERE emp.deptno=dept.deptno and LOC='MAIN BLOCK');

4.10

SELECT \* FROM emp WHERE DEPTNO=10 AND JOB IN(SELECT JOB FROM emp,dept WHERE EMP.DEPTNO=DEPT.DEPTNO AND Dname='development');

4.11

SELECT \* FROM EMP WHERE job =( SELECT job FROM emp WHERE eNAME='FORD') AND SAL=( SELECT SAL FROM emp WHERE eNAME='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);

4.13:

SELECT \* FROM emp WHERE deptno=20 and job=ANY( SELECT job FROM emp WHERE DEPTNO=30 );

4.14:

SELECT eNAME FROM emp WHERE sal >ANY( SELECT sal FROM emp WHERE DEPTNO IN (20,30));

4.15

select max(sal) from emp where sal>9000;

4.16

select min(sal) from emp where sal between 1000 and 5000;

4.17

select \* from emp,dept where emp.deptno=dept.deptno;

4.18

select \* from emp,dept where not emp.deptno=dept.deptno;

4.19

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

4.20

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

4.21

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

4.22

select ename,job from emp where job='manager';

4.23

select ename,job,sal from emp where job='manager';

4.24

select ename,job,dname,loc from emp natural join dept;

4.25

select e.empno, 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 ad e.empname !=empname;

**PROBLEM 5**

1. SELECT DEPTNO FROM DEPT UNION SELECT DEPTNO FROM ACCDEPT;
2. SELECT DEPTNO FROM DEPT UNION ALL SELECT DEPTNO FROM ACCDEPT;
3. SELECT DEPTNO FROM DEPT INTERSECT SELECT DEPTNO FROM ACCDEPT;
4. SELECT DEPTNO FROM DEPT MINUS SELECT DEPTNO FROM ACCDEPT;
5. CREATE VIEW MANAGERS AS SELECT \* FROM EMP WHERE JOB='MANAGER';

SELECT \* FROM MANAGERS;

1. 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;

1. DROP VIEW EMP\_ALL;

**PROBLEM 6**

PROBLEM 6.1 Write a pl/sql program to swap two numbers with out taking third variable

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;

/

PROBLEM 6.2 Write a pl/sql program to swap two numbers by taking third variable

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;

/

PROBLEM 6.3 Write a pl/sql program to find the largest of two numbers.

declare

a number(10);

b number(10);

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;

/

PROBLEM 6.4 Write a pl/sql program to find the total and average of 6 subjects and display the grade.

declare

a number;

b number;

c number;

d number;

e number;

f number;

total number;

per number;

begin

dbms\_output.put\_line('enter marks of subject');

a:=&a;

b:=&b;

c:=&c;

d:=&d;

e:=&e;

f:=&f;

total:=(a+b+c+d+e+f);

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

if a<40 or b<40 or c<40 or d<40 or e<40 or f<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>50 and per<=65 then

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

else

dbms\_output.put\_line('Grade D');

end if;

dbms\_output.put\_line('Total='||total);

dbms\_output.put\_line('Percentage='||per);

end;

/

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

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 is'|| sum1);

end;

/

PROBLEM 6.6 Write a pl/sql program to display the number in reverse order

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 no is'|| rev);

end;

/

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

declare

a number;

c number:=0;

i number;

begin

a:=&a;

for i in 2..a-1

loop

if mod(a,i)=0 then

c:=c+1;

end if;

end loop;

if c=0 then

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

else

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

end if;

end;

/

PROBLEM 6.8 Write a pl/sql program to find the factorial of a given number.

declare

n number;

f number:=1;

begin

n:=&n;

for i in 1..n

loop

f:=f\*i;

end loop;

dbms\_output.put\_line('the factorial is'|| f);

end;

/

PROBLEM 6.9 Write a pl/sql code block to calculate the area of a circle for a value of radius varying

from 3 to 7.

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;

/

PROBLEM 6.10 Write a pl/sql code block that will accept an account number from the user,check if the users balance is less than minimum balance,only then deduct rs.100/‐ from the

balance.this process is fired on the acct table.

\*\*\*\*\*

**PROBLEM 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;

**PROBLEM 8**

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;

CREATE [OR REPLACE] TRIGGER trig2 After delete on DEPT FOR EACH ROW

BEGIN

DELETE FROM emp WHERE emp.deptno=:new.deptno;

END;



CREATE TRIGGER trig3 AFTER DELETE ON emp FOR EACH ROW

BEGIN

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

END;