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SUBJECT- CA702(dbms lab)

Q1.

Problem 1.1:

```
create table EMP(EMPNO NUMBER(6),ENAME VARCHAR2(20)  not null,JOB VARCHAR2(10)  not null,MGR NUMBER(4),DEPTNO NUMBER(3),SAL NUMBER(7,2),constraint pk_emp primary key(empno));
```

Problem 1.2:

```
alter table EMP add COMMISSION NUMBER(7,2);
```

Problem 1.3:

```
alter table EMP modify(JOB varchar2(20));
```

Problem 1.4:

```
create table dept(DEPTNO NUMBER(2),DNAME VARCHAR2(10)  not null,LOC VARCHAR2(10),constraint pk_dept primary key(deptno));
```

Problem 1.5:

```
alter table EMP add constraint fk_empdept foreign key(DEPTNO) references dept(DEPTNO);
```

Problem 1.6:

```
alter table EMP add constraint c1 check (EMPNO>100);
```

Problem 1.7:

```
alter table EMP modify SAL default 5000;
```

Problem 1.8:

```
alter table EMP add Dob DATE;
```

Q2

Problem 2.1:

```
alter table dept modify(DNAME varchar2(20));
alter table dept modify(LOC varchar2(20));
insert into dept values(10,'MANAGEMENT','MAIN BLOCK');
insert into dept values(20,'DEVELOPMENT','MANUFACTURING UNIT');
insert into dept values(30,'MAINTENANCE','MAIN BLOCK');
insert into dept values(40,'TRANSPORT','ADMIN BLOCK');
insert into dept values(50,'SALES','HEAD OFFICE');
```

Problem 2.2:

```
insert into EMP
values(7369,'SMITH','CLERK',7566,20,800,0,'17-DEC-1980');
insert into EMP
values(7399,'ASANT','SALESMAN',7566,20,1600,300,'20-FEB-1981');
insert into EMP
values(7499,'ALLEN','SALESMAN',7698,30,1600,300,'20-FEB-1981');
insert into EMP
values(7521,'WARD','SALESMAN',7698,30,1250,500,'22-FEB-1982');
insert into EMP
values(7566,'JONES','MANAGER',7839,20,5975,500,'02-APR-1981');
insert into EMP
values(7698,'BLAKE','MANAGER',7839,30,9850,1400,'01-MAY-1979');
insert into EMP values(7611,'SCOTT','HOD',7839,
10,3000,NULL,'12-JUN-1976');
insert into EMP values(7839,'CLARK','CEO',NULL
,10,9900,NULL,'16-MAR-1972');
insert into EMP
values(7368,'FORD','SUPERVIS',7366,20,800,0,'17-DEC-1980');
insert into EMP
values(7599,'ALLEY','SALESMAN',7698,30,1600,300,'20-FEB-1981');
insert into EMP
values(7421,'DRANK','CLERCK',7698,30,1250,500,'22-JAN-1982');
```

Problem 2.3:

update EMP set COMMISSION = 1000 where JOB='MANAGER';

Problem 2.4:

create table employee as select * from EMP;

Problem 2.5:

delete from employee where JOB='SUPERVISOR';

Problem 2.6:

delete from employee where EMPNO=7599;

Problem 2.7:

select * from employee order by SAL;

Problem 2.8:

select * from employee order by SAL desc;

Problem 2.9:

select * from employee where DEPTNO=30;

Problem 2.10:

select distinct DEPTNO from employee;

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 is null;

Problem 2.14:

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

Q 3.

Problem 3.1:

select * from emp where deptno=7369 or deptno=7499;

Problem 3.2:

select * from emp where substr(ename,1,1) in ('S');

Problem 3.3:

select * from emp where substr(ename,1,1) not in ('S');

Problem 3.4:

select * from emp where empno between 7500 and 7600;

Problem 3.5:

select * from emp where empno not between 7500 and 7600;

Problem 3.6:

select sqrt(sal) from emp;

Problem 3.7:

select count(*) from emp;

Problem 3.8:

select sum(sal),avg(sal) from emp;

Problem 3.9:

```
select max(sal) as max_salary,min(sal) as min_salary from emp;
```

Problem 3.10:

```
select sum(sal) from emp;
```

Problem 3.11:

```
select job,sum(sal) from emp group by job;
```

Problem 3.12:

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

Problem 3.13:

```
select to_date(dob,'dd-mm-yy') from emp;
```

Problem 3.14:

```
select add_months(dob,2) from emp;
```

Problem 3.15:

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

Problem 3.16:

```
select to_char(round(to_date(dob),’day’),'yyyy-mm-dd') from emp;
```

Problem 3.17:

```
select (sysdate-60) from dual;
```

Problem 3.18:

```
select ename,sal,0.15*sal as raise from emp;
```

Problem 3.19:

```
select * from emp where substr(ename,1,1) in ('B','C');
```

Problem 3.20:

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

Problem 3.21:

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

Problem 3.22:

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

Problem 3.23:

select ename,mgr from emp where mgr in(77499,7566,7611);

Problem 3.24:

select count(distinct(job)) from emp;

Problem 3.25:

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

Problem 3.26:

select count(distinct(deptno)) from emp;

Problem 3.27:

select ename,dob from emp where to_char(dob,'MM') in ('02');

Problem 3.28:

select ename from emp where to_char(dob,'MM') in (extract(month from sysdate));

Problem 3.29:

select ename from emp where ename like 'S%H';

Problem 3.30:

select ename from emp where sal>6000;

Q 4.

Problem 4.1:

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

Problem 4.2:

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

Problem 4.3:

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

Problem 4.4:

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

Problem 4.5:

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');

Problem 4.6:

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

Problem 4.7:

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

Problem 4.8:

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

Problem 4.9:

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');

Problem 4.10:

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

Problem 4.11:

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');

Problem 4.12:

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

Problem 4.13:

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

Problem 4.14:

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

Problem 4.15:

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

Problem 4.16:

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

Problem 4.17:

create table accdept as select * from dept where deptno in (10,20,30);
select dept.dname from dept,accdept where dept.deptno=accdept.deptno;

Problem 4.18:

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));

Problem 4.19:

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

Problem 4.20:

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

Problem 4.21:

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

Problem 4.22:

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

Problem 4.23:

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

Problem 4.24:

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

Problem 4.25:

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

Problem 4.26:

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

Q 5

Problem 5.1:

select deptno from dept union select deptno from accdept;

Problem 5.2:

select deptno from dept union all select deptno from accdept;

Problem 5.3:

select deptno from dept intersect select deptno from accdept;

Problem 5.4:

select deptno from dept minus select deptno from accdept;

Problem 5.5:

create view managers as select * from emp where job='MANAGER';

Problem 5.6:

create view general as select empno,ename,emp.deptno,dname from emp,dept where emp.deptno=dept.deptno;

Problem 5.7:

create view alll as select empno,ename,emp.deptno,dname from emp,dept where emp.deptno=dept.deptno and job not in ('HOD','CEO');

Problem 5.8:

select view_name from user_views;

Problem 5.9:

select * from manager;
select ename from general;

Problem 5.10:

drop view alll;

Q 6

Problem 6.1:

```
SET SERVEROUTPUT ON;
CREATE PROCEDURE PROB1(NUM1 IN OUT INTEGER,NUM2 IN
OUT INTEGER)
AS
BEGIN
NUM1:=NUM1+NUM2;
NUM2:=NUM1-NUM2;
```

```
NUM1:=NUM1-NUM2;
END;
/
DECLARE
NUM1 INTEGER;
NUM2 INTEGER;
BEGIN
NUM1:=&NUM1;
NUM2:=&NUM2;
PROB1(NUM1,NUM2);
DBMS_OUTPUT.PUT_LINE('VALUE OF NUM1:'||NUM1);
DBMS_OUTPUT.PUT_LINE('VALUE OF NUM2:'||NUM2);
END;
/
```

Problem 6.2:

```
DECLARE
NUM1 INTEGER;
NUM2 INTEGER;
C INTEGER;
BEGIN
NUM1:=&NUM1;
NUM2:=&NUM2;
C:=NUM1;
NUM1:=NUM2;
NUM2:=C;
DBMS_OUTPUT.PUT_LINE('VALUE OF NUM1:'||NUM1);
DBMS_OUTPUT.PUT_LINE('VALUE OF NUM2:'||NUM2);
END;
/
```

Problem 6.3:

```
DECLARE
NUM1 INTEGER;
NUM2 INTEGER;
```

```
BEGIN
NUM1:=&NUM1;
NUM2:=&NUM2;
IF NUM1>NUM2 THEN
DBMS_OUTPUT.PUT_LINE('LARGER IS NUM1:'||NUM1);
ELSE
DBMS_OUTPUT.PUT_LINE('LARGER IS NUM2:'||NUM2);
END IF;
END;
/
```

Problem 6.4:

```
DECLARE
SUB1 INTEGER;
SUB2 INTEGER;
SUB3 INTEGER;
SUB4 INTEGER;
SUB5 INTEGER;
SUB6 INTEGER;
T INTEGER;
AV INTEGER;
BEGIN
SUB1:=&SUB1;
SUB2:=&SUB2;
SUB3:=&SUB3;
SUB4:=&SUB4;
SUB5:=&SUB5;
SUB6:=&SUB6;
T:=SUB1+SUB2+SUB3+SUB4+SUB5+SUB6;
AV:=T/6;
DBMS_OUTPUT.PUT_LINE('TOTAL IS:'||T);
DBMS_OUTPUT.PUT_LINE('AVERAGE IS:'||AV);
IF AV>90 THEN
DBMS_OUTPUT.PUT_LINE('GRADE IS S');
ELSIF AV>80 THEN
```

```
DBMS_OUTPUT.PUT_LINE('GRADE IS A');
ELSE
DBMS_OUTPUT.PUT_LINE('GRADE IS B');
END IF;
END;
/
```

Problem 6.5:

```
DECLARE
NUM INTEGER;
D INTEGER;
S INTEGER := 0;
BEGIN
NUM:=&NUM;
WHILE NUM>0 LOOP
D:=NUM MOD 10;
NUM:=FLOOR(NUM/10);
S:=S+D;
END LOOP;
DBMS_OUTPUT.PUT_LINE('SUM OF DIGITS IS:'||S);
END;
/
```

Problem 6.6:

```
DECLARE
NUM INTEGER;
D INTEGER;
R INTEGER := 0;
BEGIN
NUM:=&NUM;
WHILE NUM>0 LOOP
D:=NUM MOD 10;
NUM:=FLOOR(NUM/10);
R:=R*10+D;
END LOOP;
```

```
DBMS_OUTPUT.PUT_LINE('REVERSE IS:'||R);
END;
/
```

Problem 6.7:

```
DECLARE
NUM INTEGER;
I INTEGER := 2;
F INTEGER := 0;
BEGIN
NUM:=&NUM;
WHILE I<NUM LOOP
IF NUM MOD I=0 THEN
F:=1;
END IF;
I:=I+1;
END LOOP;
IF F=1 THEN
DBMS_OUTPUT.PUT_LINE(NUM||' IS NOT PRIME.');
ELSE
DBMS_OUTPUT.PUT_LINE(NUM||' IS PRIME.');
END IF;
END;
/
```

Problem 6.8:

```
DECLARE
NUM INTEGER;
I INTEGER := 1;
F INTEGER := 1;
BEGIN
NUM:=&NUM;
WHILE I<=NUM LOOP
F:=F*I;
I:=I+1;
```

```
END LOOP;
DBMS_OUTPUT.PUT_LINE('FACTORIAL IS:'||F);
END;
/
```

Problem 6.9:

```
create table areas(radius number(10),area number(6,2));
DECLARE
R INTEGER := 3;
A FLOAT;
BEGIN
WHILE R<=7 LOOP
A:=3.14*R*R;
INSERT INTO AREAS VALUES(R,A);
R:=R+1;
END LOOP;
END;
/
```

Problem 6.10:

```
create table acct(name varchar2(10),cur_bal number(10),acctno
number(6,2));
insert into acct values('sirius',10000,777);
insert into acct values('john',1000,765);
insert into acct values('sam',500,855);
insert into acct values('peter',800,353);
DECLARE
ACCTNO INTEGER;
BEGIN
ACCTNO:=&ACCTNO;
UPDATE ACCT SET CUR_BAL=CUR_BAL-100 WHERE
CUR_BAL<2000 AND ACCTNO=ACCTNO;
END;
/
```

Q 7

Problem 7.1:

```
 create or replace procedure salary(deptid number) as
       begin
           update emp set sal=sal+1000 where sal>5000 AND
deptno=deptid;
       end;
```

Problem 7.2:

```
 create or replace procedure salary1(empid number) as
       begin
           update emp set sal=sal+sal*(0.1) where empno=empid;
       end;
```

Problem 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;


exec get_sal(20);
```

Problem 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;


exec get_nature(20);
```

Problem 7.5:

```
create or replace procedure dep_name(deptid number)  as
      begin
         select dept.dname from dept,emp where
emp.deptno=dept.deptno;
      end;
```

Q 8.

Problem 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;
```

Problem 8.2:

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

    BEGIN

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

    END;
```

Problem 8.3:

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

BEGIN

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

    END;
```