

VASAVI COLLEGE OF ENGINEERING

(AUTONOMOUS)
(Affiliated to Osmania University)
Hyderabad - 500 031.

DEPARTMENT OF : CSE

NAME OF THE LABORATORY : DBMS

Name K.S.I.SIVANI Roll No. - 052 Page No. 84

LAB PROGRAMS-9

* Programs on cursors:

1) Program to display the list of employees and total salary department wise.

declare

cursor c1 select * from dept;

cursor c2 select * from emp;

s emp.sal%type;

begin

for i in c1

loop

s:=0;

dbms_output.put_line('Department is: ' || i.deptno ||
' Department name is: ' ||
i.dname);

for j in c2

loop

if (i.deptno = j.deptno) then

s:= s + j.sal;

dbms_output.put_line(j.empno || " " || j.ename || " " || j.sal);

end if;

end loop;

dbms_output.put_line ("Total salary is: "||s);

end loop;

end;

O/P:

Department is:10 Department name is: ACCOUNTING

7782 CLARK 2450

7839 KING 5000

7934 MILLER 1300

Total Salary is: 8750.

Department is:20 Department name: RESEARCH.

7369 SMITH 800

7566 JONES 2975

7788 SCOTT 3000

7876 ADAMS 1100

7902 FORD 3000

Total Salary is: 10875

Department is:30 Department name is: SALES.

7499 ALLEN 1600

7521 WARD 1250

7654 MARTIN 1250

7698 BLAKE 3135

7844 TURNER 1500

7900 JAMES 950

Total Salary is: 9685

Department is:40 Department name is OPERATIONS

Total Salary is: 0.

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- 3) ~~Write a function to find the employees working under a given manager.~~
- 2) PL/SQL block using CURSOR to find EMPLOYEE with given job and deptno.

declare

cursor c1(j varchar 2 , dn number) is select empno,
ename from emp where job = j and deptno=dn;
row1 emp % rowtype;
jb emp.job%type;
d emp.deptno%type;

begin:

jb:=&jb;

d:=&d;

open c1(jb, d);

fetch c1 into row1.empno, row1.ename;

if c1%notfound then

dbms_output.put_line ("Employee does not exist");

else

dbms_output.put_line ('empno is:' ||row1.empno||'
employee name is:' ||row1.ename);

end if;

end;

O/P:

Enter value for jb: MANAGER

Enter value for d: 30

empno is 7698 employee name is :BLAKE

3) Write a cursor to display the list of employees who are working as a MANAGER (or) ANALYST:

declare

cursor c(jb varchar(12)) is select ename from emp
where job=jb;

em emp.job%type;

begin

open c('MANAGER');

dbms_output.put_line('Employees working as MANAGERS
are:');

loop

fetch c into em;

exit when c%notfound;

dbms_output.put_line(em); end loop;

open c ('ANALYST');

dbms_output.put_line('Employees working as ANALYSTS are

loop

fetch c into em;

exit when c%notfound;

dbms_output.put_line(em); end loop;

close c;

end;

O/P:

Employees working as MANAGERS are:

JONE

BLAKE

CLARK

Employees working as ANALYSTS are:

SCOTT

FORD

4) Write a cursor to display list of employees from emp table in PL/SQL block:

declare

cursor c is select empno,ename,deptno,sal from emp;

i emp.empno% type;

j emp.ename% type;

k emp.deptno% type;

l emp.sal% type;

begin

open c;

dbms_output.put_line('Empno,Name,Deptno,salary
of employees are:');

loop

fetch c into i,j,k,l;

exit when c%notfound;

dbms_output.put_line(i||" "||j||" "||k||" "||l);

end loop;

close c;

end;

Q1P:

Empno, Name, deptno, salary & employees are:

7369	SMITH	20	800
7499	ALLEN	30	1600
7521	WARD	30	1250
7566	JONES	20	2975
7654	MARTIN	30	1250
7698	BLAKE	30	3135
7782	CLARK	10	2450
7788	SCOTT	20	3000
7839	KING	10	5000
7844	TURNER	30	1500
7876	ADAMS	20	1100
7900	JAMES	30	950
7902	FORD	20	3000
7934	MILLER	10	1300

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- 5) Write a PL/SQL program to list employee names whose salary is more than their manager to whom they report.

declare

cursor c1 is

select e1.ename, e1.sal, e2.ename, e2.sal from
emp e1, emp e2 where e1.mgr = e2.empno and
e1.sal > e2.sal;

e1 emp.ename% type;

e2 ~~sal~~ emp.sal% type;

e3 emp.ename% type;

e4 emp.sal% type;

begin

open c1;

loop

fetch c1 into e1,e2,e3,e4;

exit when c1%notfound;

dbms_output.putline.(e1 || '---' || e2 || '---' || e4);

end loop;

close c1;

end;

O/P:

FORD --- 3000 --- JONES --- 2975.

SCOTT --- 3000 --- JONES --- 2975.

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- 6) Write a PL/SQL program to display TOP 3 earners of the company.

declare

 ena emp.ename%type;

 sa emp.sal%type;

cursor c1 is select ename, sal from emp order by sal desc;

begin

 open c1;

 loop

 fetch c1 into ena,sa;

 exit when c1%rowcount>3;

 dbms_output.put_line (enall'---'||sa);

 end loop;

 close c1;

end;

O/P:

KING - - - - 5000

BLAKE - - - - 3135.

FORD - - - - 3000.

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7) List Employee name, manager name chain for each employee:

declare

cursor c1 is select empno, ename, mgr from emp;

eno emp.empno%type;

mno emp.mgr%type;

ena emp.ename%type;

begin

dbms_output.put_line('Emp Names and managerchain');

dbms_output.put_line('King');

for m in c1 loop

eno:=m.empno;

mno:=m.mgr;

while mno is not null.

loop

select ename into ena from emp where empno=eno;

dbms_output.put_line(ename'---');

Select mgr into mno from emp where empno=eno;

eno:=mno;

end loop; dbms_output.put_line(''); end loop;

end;

O/P:

KING

SMITH --- FORD --- JONES --- KING

ALLEN --- BLAKE --- KING

WARD --- BLAKE --- KING

JONES --- KING

MARTIN --- BLAKE --- KING

BLAKE --- KING

CLARK --- KING

SCOTT --- JONES --- KING

TURNER --- BLAKE --- KING

ADAMS --- SCOTT --- ~~BLAKE~~ JONES --- KING

JAMES --- BLAKE --- KING

FORD --- JONES --- KING

MILLER --- CLARK --- KING

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- 8) List employee names and their total salary
in words (sal+comm)

O/P

→ create table words(
no number(5),
word varchar2(10));

SMITH	eight	zero zero zero
ALLEN	One	nine zero zero.
HARD	one	seven five zero
JONES	two	nine seven five.
MARTIN	two	six five zero
BLAKE	two	eight five zero
CLARK	two	four five zero
SCOTT	three	zero zero zero
KING	five	zero zero zero zero
TURNER	one	five zero zero
ADAMS	one	one zero zero
JAMES	nine	five zero zero zero
FORD	three	zero zero zero zero
MILLER	One	three zero zero zero

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8) List employee names and their total salary
(sal+comm)
in words
declare
cursor c is select ename, sal, comm from emp;
en emp.ename%type; sl emp.sal%type;
c1 emp.comm%type; word1 words.word%type;
i number;
begin
open c;
loop
fetch c into en, sl, c1;
exit when c%notfound;
dbms_output.put_line(en);
if c1 is null then
c1:=0; end if;
for i in 1..length(sl+c1)
loop
select word into word1 from words where
no = substr((sl+c1), i, 1);
dbms_output.put(word1);
end loop; dbms_output.put_line('');
end loop;
close c;
end;

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LAB PROGRAMS-10

* Programs on triggers:

a) Insertion of an employee must be possible only on Saturday between 1pm to 6pm.

Create or replace trigger emp_ins before
insert on emp1 for each row.

begin

if to_char(sysdate,'dy') != 'mon' and
to_char(sysdate,'hh') not between 13 and 18
then

raise_application_error(-20007, 'it is not
possible');

end if;
end;

O/P:

Trigger created.

ORA-20007: it is not possible

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2) Salary of an employee must be modified only on Monday in any month with an entry in the log table.

Create or replace trigger emp-up before update of sal on emp1 for each row.

begin

```
if to_char(sysdate, 'dy') != 'mon' then
    raise_application_error(-20007, 'it is not
        possible').
```

else

```
    insert into log values(old.empno, old.ename,
        old.sal, new.sal, sysdate);
```

end if;

end;

O/P:

Trigger created.

```
insert into log(empno,ename,old-sal,new_sal)
    values(1234,'abcde',2500,3000);
```

1 row created.

O/P:

insert into new(deptno) values (10);
error: cannot have duplicate deptno

insert into new(dname) values ('Abc');
error: deptno cannot be NULL

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- 3) Write a trigger program to ensure that dept table does not contain duplicate or NULL values in deptno.
create or replace trigger ~~before~~ 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;