**ADVANCED DATABASE MANAGEMENT SYSTEM**

**Lab Quiz**

Time: 1 hr 30 mins

1. Write a PL/SQL program to count number of employees in a specific department and check whether this department have any vacancies or not. If any vacancies, how many vacancies are in that department. We assume that department can have maximum 10 employees.

Declare

count number(5);

deptno emp.deptno%type;

vacancie number(5);

i number(5);

cursor c1 is

select deptno,cast(count(empno) as number(5))as count from emp group by deptno;

Begin

for i in c1 loop

if i.count<10 then

dbms\_output.put\_line('Department '||i.deptno||' has vacancies.');

vacancie :=10-i.count;

dbms\_output.put\_line('Number of vacancies: '||vacancie);

dbms\_output.new\_line;

else

dbms\_output.put\_line('Department '||i.deptno||' has no vacancies.');

dbms\_output.new\_line;

end if;

end loop;

end;

1. Write a PL/SQL script that uses cursor For Loop to calculate bonus for employees as 5%of salary + 2.5% of comm. The calculated bonus is store in a table bonuses(empno, bonus).
2. Write a program in PL/SQL to print the prime numbers between 1 to 50.

Declare

counter number(5);

k number(5);

Begin

dbms\_output.Put\_line('The prime number between 1-50 : ');

for n in 1..50 loop

counter := 0;

k := floor(n/2);

for i IN 2..k loop

if (mod(n, i) = 0 ) then

counter := 1;

end if;

end loop;

if (counter = 0) THEN

dbms\_output.put\_line(n);

end if;

end loop;

end;

OR

DECLARE

i NUMBER(3);

j NUMBER(3);

BEGIN

dbms\_output.Put\_line('The prime number between 1-50 : ');

dbms\_output.new\_line;

i := 2;

LOOP

j := 2;

LOOP

EXIT WHEN( ( MOD(i, j) = 0 ) OR ( j = i ) );

j := j + 1;

END LOOP;

IF( j = i )THEN

dbms\_output.Put(i||' ');

END IF;

i := i + 1;

exit WHEN i = 50;

END LOOP;

dbms\_output.new\_line;

END;

1. Write a c program to find the perfect numbers within a given number of ranges.

Declare

n number(5):=:Enter\_Number;

i number(5);

result number(5):=0;

Begin

for i in 1..n-1 loop

if(MOD(n,i)=0) then

result :=result+i;

end if;

end loop;

if(result=n) then

dbms\_output.put\_line(n||' is perfect number');

else

dbms\_output.put\_line(n||' is not perfect number');

end if;

End;

1. Find the largest number from three numbers.

Declare

num1 number:=:Enter\_1st\_Number;

num2 number:=:Enter\_2nd\_Number;

num3 number:=:Enter\_3rd\_Number;

Begin

dbms\_output.put\_line('Number\_1 = '||num1 ||' Number\_2 = '||num2 ||' Number\_3 = '||num3);

dbms\_output.new\_line;

if num1>num2 AND num1>num3

then

dbms\_output.put\_line('Number\_1 is greatest : ' || num1 );

else

if num2>num1 AND num2>num3

then

dbms\_output.put\_line('Number\_2 is greatest : ' || num2);

else

dbms\_output.put\_line('Number\_3 is greatest: ' || num3);

end if;

End if;

End;