

PRACTICAL FOR WEEK 7 –PL/SQL

- 1 Get into the Oracle SQLPLUS environment (**Start/Programs/Oracle 10g/SQL Plus**). At the prompt, enter username (**ops\$cnnnnnnnn** - don't omit the **ops\$**), enter the password (your date of birth in format DDMONYY e.g. 18DEC83), and host string (**'ORCL10G'**). If you cannot get into Oracle using your own user name ask your tutor for one of the **oraclen** usernames.
- 2 Download the SQL file (week5.sql) from black board to your local drive, i.e. H or K drive.
- 3 In the SQLPlus window you should get the prompt **SQL>**, run 'week5.sql' file using the start SQLPLUS command: **START H:/week5.sql**; This will run a script that creates the below tables.
- 4 After you log on, please type the SQLPlus command: **set serveroutput on**. This enables you of displaying the output in the SQLPlus window.

EMP

Name	Null?	Type
EMPNO	NOT NULL	NUMBER(7)
EMPNAME	NOT NULL	VARCHAR2(15)
POSTCODE	NOT NULL	VARCHAR2(9)
GENDER		CHAR(1)
DOB	NOT NULL	DATE
EXTENSION		NUMBER(4)
GRADE		CHAR(4)
SUPERVISOR		NUMBER(7)
DEPTNO		NUMBER(3)
ANNSALARY		NUMBER(7)

DEPT

Name	Null?	Type
DEPTNO	NOT NULL	NUMBER(3)
DEPTNAME		VARCHAR2(10)
LOCATION		VARCHAR2(15)
EXTENSION		NUMBER(4)
MANAGER		NUMBER(7)

PROJET

Name	Null?	Type
PROJNO	NOT NULL	NUMBER(6)
PNAME	NOT NULL	VARCHAR2(10)
DEPTNO		NUMBER(3)

EMP_PROJ

Name	Null?	Type
PROJNO	NOT NULL	NUMBER(6)
EMPNO	NOT NULL	NUMBER(7)
NUM_OF_HOURS		NUMBER(7,2)

5 Type the following PL/SQL program that prints employee's names, annual salaries and their grades for those who belong to the Design department?

Declare

```

E_name      emp.empname%type;
Ann_sal      emp.annsalary%type;
Grade_t      emp.grade%type;
Cursor c11 is select empname, annsalary, grade
from dept d, emp e
where d.deptno=e.deptno
and deptname like 'Design';

```

Begin

```

open c11;
loop
    fetch c11 into E_name, Ann_sal, Grade_t;
    dbms_output.put_line('Employee name is '||E_name||', Salary is '|| Ann_sal||', Grade is '||Grade_t||);
    exit when c11%notfound;
end loop;
close c11;
end;
/

```

Note: The above PL/SQL block uses cursor since there are multiple records returned by the query (Look at the output).

6 The following PL/SQL program prompt the user to enter an employee number and then prints its corresponding employee name, original annual salary and the new salary. The new salary is estimated after adding an increase, which is determined based on the original salary as follows:

Salary	Increase
19000-25000	0.06
7000-18999	0.04
Others	0.02

Note: When testing, use employee numbers like: 123456, 104678, 164032, ... etc

```
Declare
    E_name    emp.empname%type;
    Sal       emp.annsalary%type;
    Emp_t     integer default 123456;
    Increase  integer (5, 2);
Begin
    Select empname, annsalary into E_name, Sal
        From emp
            Where empno= &Emp_t;
    If (Sal >= 19000 and Sal <= 25000)
        then Increase := 0.06;
    Elsif (Sal >= 7000 and Sal < 19000)
        then Increase:= 0.04;
    Else Increase:= 0.02;
    End if;
    dbms_output.put_line('Employee name is '||E_name||', Original
    Salary is '|| Sal ||', New Salary is '|| ((Sal*Increase) + Sal));
EXCEPTION
    WHEN NO_DATA_FOUND THEN
        dbms_output.put_line('Invalid Employee number');
end;
/
```

7 Solve at least one of the following problems using PL/SQL Blocks?

- a. Find the department number and name managed by HANCOCK?
- b. List Department name and location for departments that managed a project which employs at least two employees?
- c. Find the employees name in small letters, age and monthly salary for employees who worked on at most two projects?