

Activity 2 PL/SQL Exercise - Stored procedures, functions

1. Stored Function

Create stored function is called `get_cleaners_location`. This function takes as input a cleaner's number and returns the cleaner's depot address. Call the function from within an SQL statement to select the cleaner's name and location for a particular cleaner.

```
create or replace function get_cleaners_location (cleaner_num in cleaner.cno%type)
return depot.address %type as
dlocation          depot.address %type;
begin
    select address
    into dlocation
    from cleaner c, depot d
    where cno= cleaner_num
    and d.dno=c.dno;
    return (dlocation);
end;
/
```

Function created.

```
select cname, get_cleaners_location (cno) "Address"
from cleaner
where cno='110';
```

CNAME	Address
John	Camden Road

2 Stored Procedures and cursors

Examine the following three example stored procedures to print out the name and salary of all bus drivers.

2.a The following example shows a cursor 'for loop', with the cursor defined inside the loop.

```
create or replace procedure DisplayBusDrivers as
begin
    for driver in (select * from BusDriver)
    loop
        dbms_output.put_line(driver.bdname || ' ' || driver.bdsalary);
    end loop;
end;
```

We now use the 'Execute' statement to execute the stored procedure

Execute DisplayBusDrivers;

```
Jane Brown 1800
Sally Smith 1750
James Bond 1500
Maggie May 2200
Jack Jones 1400
```

Peter Piper 3500
John Peel 2000
PL/SQL procedure successfully completed.

Note that the next 2 examples outputs identical code.

2.b The next example has the cursor defined in the declaration section, and used in the loop.

```
Create or replace procedure DisplayBusDrivers2 as
cursor drivercursor is
    select * from busdriver;
begin
    for driver in drivercursor
    loop
        dbms_output.put_line(driver.bdname || ' ' || driver.bdsalary);
    end loop;
end;
```

Execute DisplayBusDrivers2;

2.c The example below demonstrates explicit open and fetch statements. Notice that the cursor needs to be declared.

```
Create or replace procedure DisplayBusDrivers3 as
cursor drivercursor is
    select * from busdriver;
driver busdriver%rowtype;
begin
    open drivercursor;
    loop
        fetch drivercursor into driver;
        exit when drivercursor %notfound;
        dbms_output.put_line(driver.bdname || ' ' || driver.bdsalary);
    end loop;
end;
```

Execute DisplayBusDrivers3;

Write similar code as the three examples above but this time output the cleaners' name and depot name. Use the Execute statement to test the stored procedures.

Answer 2.a

```
Create or replace procedure DisplayCleaners as
begin
    for cl in (select cname, dname from cleaner c, depot d where c.dno=d.dno)
    loop
        dbms_output.put_line(cl.cname || ' ' || cl.dname);
    end loop;
end;
```

Execute DisplayCleaners;

John Holloway
Jean Holloway
Betty Hornsey
Vince Hornsey
Jay Hornsey

Doug Hornsey
PL/SQL procedure successfully completed.

Answer 2b

```
Create or replace procedure DisplayCleaners2 as
cursor cleanercursor is
select cname, dname from cleaner c, depot d where c.dno=d.dno;
begin
    for cl in cleanercursor
    loop
        dbms_output.put_line(cl.cname || ' ' || cl. dname);
    end loop;
end;
```

Procedure created.

```
Execute DisplayCleaners2;
Output as above
PL/SQL procedure successfully completed.
```

Answer 2c

```
Create or replace procedure DisplayCleaners3 as
cursor cleanercursor is
    select cname, dname from cleaner c, depot d where c.dno=d.dno;
cl cleanercursor%rowtype;
begin
    open cleanercursor;
    loop
        fetch cleanercursor into cl;
        exit when cleanercursor%notfound;
        dbms_output.put_line(cl.cname || ' ' || cl. dname);
    end loop;
end;
```

```
Create or replace procedure DisplayBusDrivers3 as
cursor drivercursor is
    select * from busdriver;
driver busdriver%rowtype;
begin
    open drivercursor;
    loop
        fetch drivercursor into driver;
        exit when drivercursor %notfound;
        dbms_output.put_line(driver.bdname || ' ' || driver.bdsalary);
    end loop;
end;
```

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PL/SQL procedure successfully completed.