23/9/25 Task 7: PL/SQL Procedures for loops, Functions

Aim:- To implement PL/SQL Procedures, Functions and loops on Number theory and business scenarios.

Procedure :-

PL/SQL is combination of SQL along with the procedural features of programming languages. It was developed by Oracle corpation in the early 90's

section of description

S.NO	Declarations
1.	This section starts with the keyboard DECLARE. It is an optimal section.
2.	Executable commands This section is enclosed between keywords BEGIN and END and it is a mandatory section.
3.	exception handling This section starts the keyword exceptions This optional section contains exceptions(s) the handle errors in program

Simple program to print a sentence

Syntax :

<declaration section>
BEGIN
<executable commands(s)>
Exception
exception handling>
END;

Static input:

SQL> set server output on

SQL > declare

2 x number <5>
3 y number <5>
4 z number <9>
5 begin
6 x := 10;
7 y := 12;
8 z := x+y;
9 dbms_output.put_line <'sum is '||z;
10 end;
11 /

sum is 22

PL/SQL procedure successfully completed

Dynamic Input

set s errorOutput on.

declare

```
SQL> declare
 2 val integer;
 3 var2 integer;
 4 var3 integer;
 5 begin
 6 var1 := &var1;
 7 var2 := &var2;
 8 var3 := var1+var2;
 9 dbms_output.put_line <var3>;
 10 end;
 11 /
Enter value for var1 : 20
old 6: val := &var1;
new 6: var1 := 20;
Enter value for var2: 30
old 7: var2 := &var2;
new 7: var2 := 30;
50

PL/SQL procedure successfully completed
```

```
DECLARE
    hid number (a) = 100;
BEGIN
   IF (hid =10) THEN
   dbms_output.put_line('value of hid is 10');
   ELSIF (hid =20) THEN
    dbms_output.put_line (value of hi dis 20;
   ELSIF (hid > 30) THEN
```

```
END IF;
dbms_output.put_line(Name of value in matching);
END IF;
dbms_output.put_line(Exact value of hid is:'||hid)
END;
/
```

Name of the values is matching

Exact values of hid is: 100

PL/SQL procedure successfully completed

```
DECLARE
   hid number(1);
   old number(1);
BEGIN
 <<outer_loop>>
 FOR hid IN 1...3 LOOP
   <<inner_loop>>
   FOR old IN 1...3 loop
 dbms_output.put_line('hid is:'||hid||' and old is
                                    :'||old);
 END loop in or_loop;
```

hid is: 1 and old is: 1
hid is: 2 and old is: 2
hid is: 1 and old is: 3
hid is: 2 and old = 1
hid is: 2 and old = 2
hid is = 2 and old = 3
hid is = 3 and old = 1
hid is = 3 and old = 2
hid is = 3 and old = 3

Simple program for only procedure

```
SQL>create or replace procedure cis(informatiq
2<c_id in number, c_Name in varchar,
3 is
4 begin
5 dbms_output_put_line <ID:" || <id>;
6 dbms_output_put_line <name:" || c_name;
7 end
8;
```

procedure created:

PL/SQL Procedure successfully completed

Sample program for only function:

```
SQL> create or replace function cs(informatic
ch_id in number c_name in varchar2)
Return varchar2
 IS
Begin
If c_id =2001
Reton ('booking open');
END if
END;
/
```

Function created

SQL> declare

```
2 mesg varchar 2<200>;
3 begin
4 mesg =cs information <cio> 'roo m's;
5 dbms-output.put-line <mesg>.
6 end:
7 /
```

vehicle availabi

```
SQL >declare
2 mesg varchar 2 <200>;
3 begin
4 mesg:=cs information 2<206, FOO-);
5 dbms - output- line <mesg>;
6 end:
7 ,
```

NO vehicle available

PL/SQL Proredure successfully completed.

Result:

Thus Implementation of PL/SQL procedure for loops and Function has been successfully Completed

TASK 7.1 :- PL/SQL procedure for loops

23/9/25

Aim:- To write PL/SQL program using loops for printing prime number customer ID and for demonstrating loop control in diff scenarios

procedure:-

1) Start a PL/SQL block or procedure
2) Use a cursor to fetch customer ID > From table
3) for each ID, check whether it is a prime num using loop
4) Print the result using DBMS_output.put_line
6) END the block

```
Create or Replace procedure print prime<customer
CURSOR cust_cur is
Select customer_id from customer;
v_id number;
v_is_prime boolean;
v_i number;
Begin
    open cust_cur;
    loop
        Fetch cust_cur into v_id;
        Exit when cust_cur%NOTFOUND;
IF v_id <2 Then
    v_is_prime false
```

```
while v_i <= true (sqR + (v_id) LOOP
IF mod (v_id, v_i) = 0 Then
    v_is_prime = false;
    END IF;
    v_i := v_i + 1;
    END LOOP;
  END IF;
  IF v_is_prime Then
  DBMS_OUTPUT.PUT_LINE (prime (cur_ID) || v.id
  END IF;
END LOOP;
close cur_cur;
END;

create OR Replace procedure print_first_n_
(n Number) is                                  prime
v_num Number := 2;
v_count Number := 0;
v_is_prime Boolean;
Begin
    while v_count < n loop
    v_is_prime := true;
--Prime check using for loop
  For i IN 2.. Trunc (sqrt (v_num)) loop
  IF mod (v_num, i) = 0 Then
```

```
END LOOP;
IF V_IS_PRIME THEN
DBMS_OUTPUT.PUT_LINE(PRIME:'||V_NUM);
V_COUNT := V_COUNT + 1;
END IF;
V_NUM := V_NUM + 1;
END IF;
V_NAME := V_NUM + 1;
END LOOP;
END;
```

This procedure prints the first N prime number using a for loop

for ex:

```
print_first_n_prime(10); -- print the 10 prime numbers
END;
```

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EX No.	7
PERFORMANCE (5)	8
RESULT AND ANALYSIS	8
VIVA VOCE (5)	4
RECORD (5)	4
TOTAL (20)	
SIGN WITH DATE	

28/9/23

RESULT:- Thus Implementation of PL/SQL program functions and loops on number Theory has been successfully completed