

Task No: 7 PL/SQL procedures, functions, loops.  
Date: 23/9/25

Aim: To implement PL/SQL procedures, functions and loops on Number theory and business scenarios.

### Procedure:

PL/SQL is a combination of SQL along with the procedural features of programming language. It was developed by Oracle corporation in the early 90's to enhance the capabilities of SQL. PL/SQL is one of three key programming languages embedded in Oracle database, along with SQL itself and Java.

Simple program to print a sentence;

### Syntax: `DECLARE`

`<declaration section>`

`BEGIN`

`<executable section>`

`EXCEPTION`

`<exception handling>`

`END;`

### Program:

`DECLARE`

`message varchar2(20) := 'booking closed';`

`BEGIN`

`dbms_output.put_line(message);`

`END;`

`output: booking closed.`

## Dynamic Input

```
set serveroutput on;  
declare  
    x number(5);  
    y number(5);  
    z number(9);  
begin  
    x := 10;  
    y := 12;  
    z := x + y;  
    dbms_output.put_line('sum is' || z);  
end;
```

Output: sum is 22.

```
declare  
    var1 integer;  
    var2 integer;  
    var3 integer;  
begin  
    var1 := &var1;  
    var2 := &var2;  
    var3 := var1 + var2;  
    dbms_output.put_line(var3);  
end;
```

Enter value for var1: 20

old 6: var1 := &var1;

new 6: var1 := 20;

Enter value for var2: 30

old 7: var2 := &var2;

new 7: var2 := 30;

so.

Declare

hid number(3); =100;

Begin

if (hid=10) then

dbms - output . put - line ("value of hid is 10");

else if (hid=20) then

dbms - output . put - line ("value of hid is 20");

else if (hid=30) then

dbms - output . put - line ("value of hid is 30");

else

dbms - output . put - line ("None of the values is matching");

end if;

dbms - output . put - line ("exact value of hid is :" || hid);

End;

/

output)

None of the values is matching

exact value of hid is ;100

Declare

hid number(1);

old number(1)?

Begin

<< output - 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 inner-loop;

END loop outer-loop;

/

hid is ;1 and old is ;1

hid is ;1 and old is ;2

hid is ;2 and old is ;3

hid is ;2 and old is ;1

hid is ;2 and old is ;2

hid is ;2 and old is ;3

hid is: 3 and old is: 1

hid is: 3 and old is: 2

hid is: 3 and old is: 3

Program for only procedure

Create or replace procedure cr information

<C-id in number, C-name in varchar2>

IS

begin

dbms\_output.put\_line('ID:'||c-id);

dbms\_output.put\_line('Name'||c-name);

end;

/

Procedure created.

exec cr information (101,'raam');

PL/SQL procedure successfully completed

Set serveroutput on;

exec cr information (101,'raam');

ID :101

Name:raam.

Program for for only functions.

Create or replace function cr information

(h-id in number, c-name in varchar2)

Return varchar2

IS

Begin

if C-id > 200 then

Return ('no booking available');

False

Return ('booking open');

End if;

End;

Function Created.

declare

mesg varchar2(200);

begin

mesg := cs\_information(102,'raam');

dbms\_output.put\_line(mesg);

end;

/

Vehical available

declare

mesg varchar2(200);

Begin

mesg := cs\_information(206,'raam');

dbms\_output.put\_line(mesg);

end;

/

No vehicle available.

procedure:

1. start a pl/sql block or procedure
2. use a cursor(if required) to fetch customer IDs from a table.
3. for each ID, check whether it is a prime number using a loop.
4. use for loop/while loop to determine demonstrate prime number checking.
5. print the result using dbms\_output.put\_line.
6. end the block.

using while loop with cursor.

create or replace procedure print\_prime customers IS  
cursor cust\_cur is

```
Select customer_id from customers;  
v_id Number;  
v_is_prime Boolean;  
v_i Number;  
Begin  
  open cust_cur;  
  Loop  
    Fetch cust_cur into v_id;  
    Exit when customer cury. Not found;  
    If v_id < 2 then  
      v_is_prime := False;  
    Else  
      v_is_prime := True;  
      v_i := 2;  
      While v_i <= sqrt(v_id) loop  
        If mod(v_id, v_i) = 0 Then  
          v_is_prime := FALSE;  
        End If;
```

If mod(v\_id, v\_i) = 0 Then

```
  v_is_prime := FALSE;  
  EXIT;  
END IF;
```

```

    v-i := v-i+1;
END Loop;

END IF;
IF v-is-prime THEN
DBMS-output.put-line('Prime customer, ID!' || v-id);
END if;

END loop;
close CUST-CURS

END;

```

using for loop for first N prime Numbers:

Create or Replace procedure print-first-n-primes(n number)

```

v-num.Number := 2;
v-count Number := 0;
v-is-prime Boolean;

```

Begin

while v-count < n loop

v-is-prime := TRUE;

for i in 2..TRUNC(SORT(v-num)) loop

If MOD(v-num,i) = 0 then

v-is-prime := FALSE

exit;

END IF;

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 loop;

END;

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EX NO.	7
PERFORMANCE (5)	5
RESULT AND ANALYE'S (5)	5
VIVA VOCE (5)	5
RECORD (5)	4
TOTAL (20)	14
DATE	8/10/2018

✓ 7/10

Result The PL/SQL, functions, Loops procedure were successfully completed.