

Task: 7

Date: 23/7/2

## PL/SQL PROCEDURE, FUNCTIONS, LOOPS

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

Declaration:

Start with the keyword DECLARE.

It is an optional section and defines all variables, whereas, subprograms and other elements to be used in the program.

Executable commands:-

Enclosed between the keywords BEGIN and END and it is a mandatory section.

Exception Handling:- Starts with the keyword EXCEPTION

This is optional section contains exception that handles errors in the program.

Syntax:-

DECLARE

< declarations section >

BEGIN

< Executable command(s) >

EXCEPTION

< exception handling >

END;

Query:

```
DECLARE  
message varfar 2(20) :- 'Admission open';  
  
BEGIN  
dbms-output.put-line(message);  
END;
```

O/P

Admission is open

Query

```
set serveroutput on;
```

declare

```
x number(5);
```

```
y number(5);
```

```
z number(9);
```

begin

```
x := 10;
```

```
y := 12;
```

```
z := x * y;
```

```
dbms-output.putline("multiplication of two numbers is ");
```

end;

/

O/P multiplication of two numbers is 120.

Query :-

declare

var 1 integer;

var 2 integer;

var 3 integer;

begin

var 1; := var 1;

var 2; := var 2;

var 3; := var 1 + var 2;

dbms\_output.put\_line <var 3>;

end;

/

Input

Enter value for var 1: 60

old 6: var 1; := var 1;

new 6: var 1; := 20;

Enter value for var 2: 30

old 7: var 2; := var 2;

new 7: var 2; := 30;

90

Query

Declare

hid numbers(3):=100;

BEGIN

If (hid = 10) then

dbms\_output.put\_line ("value of hid is 10");

Elif (hid = 20) then

dbms\_output.put\_line ("value of hid is 20");

Else

dbms\_output.put\_line ("None of the values is matching");

End If;

dbms\_output.put\_line ("Exact value of hid is : " || hid);

END;

/

O/P

None of the value is matching.

Exact value of hid is 100.

Loop

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 inner-loops;

End loop outer-loop;

End:

/  
O/P

hid is 1 and old is 1

hid is 1 and old is 2

hid is 1 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.

## while Loop

set screen output on;

create or replace procedure print - first

-n-prime (n number);

v-number := 20;

v-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 .. sqrt(v-number)

loop

if mod (v-number) = 0 then

v-is-prime = false;

exit;

end if;

end loop;

if v-is-prime then

dbms\_output.put\_line ("prime" || n-number);

v-count := v-count + 1;

end if;

v-number := v-number + 1;

end loop;

end;

O/P

Exec print-first-n-prime(10);

2

3

5

7

11

13

17

19

23

29

while loop

Create or replace procedure print-prime-customer()

cursor cust-cur IS

Select SID from student;

v-ld Number;

v-is-prime Boolean;

v-l Number;

Begin

open cust-cur;

loop

Fetch cust-cur INTO v-ld;

Exits when cust-cur % NOT FOUND;

prime check using while loop

If v-ld < 2 then

v-is-prime := False;

Else

v-is-prime := True

v-is := 2;

while  $v\_l \leq \text{true} (\text{sqrt}(v\_10))$  ) loop

If  $\text{mod}(v\_10, v\_l) = 0$  then

$v\_l\text{-is-prime} := \text{False};$

Exit;

End If;

$v\_l := v\_l + 1;$

End loop;

End If;

If  $v\_l\text{-is-prime}$  then

dbms\_output.put\_line ("prime student ID: ||v\\_1d);

End If;

End loop;

close cust\_curi;

End;

/

O/p

prime student ID: 2

prime student ID: 3

prime student ID: 5

| VEL TECH                |      |
|-------------------------|------|
| EX NO.                  | 7    |
| PERFORMANCE (5)         | 5    |
| RESULT AND ANALYSIS (5) | 5    |
| VIVA VOCE (5)           | 6    |
| RECORD (5)              | 15   |
| TOTAL (20)              | 80   |
| SIGN WITH DATE          | 7/10 |

Result:- Implementation of PL/SQL procedures, functions and functions and loop on number theory has been successfully executed.