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## Vocabulary

Identify the vocabulary word for each definition below:

Basic Loops	Encloses a sequence of statements between the keywords LOOP and END LOOP and must execute at least once.
EXIT Statement	Statement to terminate a loop.

## Try It / Solve It

1. What purpose does a loop serve in PL/SQL?

Answer : Loops are mainly used to execute statements repeatedly until an EXIT condition is reached.

2. List the types of loops in PL/SQL.

Answer :  
1. Basic loops that perform repetitive actions without overall conditions  
2. FOR loops that perform iterative actions based on a counter  
3. WHILE loops that perform repetitive actions based on a condition

3. What statement is used to explicitly end a loop?

Answer : EXIT

4. Write a PL/SQL block to display the country\_id and country\_name values from the COUNTRIES table for country\_id whose values range from 1 through 3. Use a basic loop. Increment a variable from 1 through 3. Use an IF statement to test your variable and EXIT the loop after you have displayed the first 3 countries.

Answer :

```
declare
  v_name    wf_countries.country_name%type;
  v_country_id wf_countries.country_id%type := 1;
begin
  select country_name, country_id into v_name, v_country_id
  from wf_countries
  where country_id = v_country_id;
  loop
    dbms_output.put_line( 'country name : ' || v_name || ', country id : ' || v_country_id);
    v_country_id := v_country_id + 1;
    if v_country_id > 3 then exit;
    end if;
  end loop;
end;
```

5. Modify your solution to question 4 above, replacing the IF statement with an EXIT..... WHEN statement.

```
declare
  v_name      wf_countries.country_name%type;
  v_country_id wf_countries.country_id%type := 1;
begin
  select country_name, country_id into v_name, v_country_id
  from wf_countries
  where country_id = v_country_id;
  loop
    dbms_output.put_line('country name : ' || v_name || ', country id : ' || v_country_id);
    v_country_id := v_country_id + 1;
    exit when v_country_id > 3;
  end loop;
end;
```

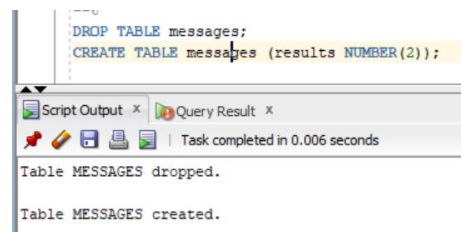
6. Create a MESSAGES table and insert several rows into it.

- a. To create the messages table.

```
DROP TABLE messages;
```

```
CREATE TABLE messages (results NUMBER(2));
```

Answer :



- b. Write a PL/SQL block to insert numbers into the MESSAGES table. Insert the numbers 1 through 10, excluding 6 and 8.

Answer :

```
declare
  v_counter    messages.results%type;
begin
  for v_counter in 1..10 loop
    if v_counter not in (6, 8) then
      insert into messages(results) values (v_counter);
    end if;
  end loop;
end;
```

- c. Execute a SELECT statement to verify that your PL/SQL block worked.

Answer :

The screenshot shows the SQL Developer interface. The script editor contains the command `select * from messages;`. Below the script editor, the 'Script Output' pane shows the message 'All Rows Fetched'. The 'Query Result' pane shows a table with 8 rows and 2 columns. The first column is labeled 'RESULTS' and the second column is labeled '1'. The data in the table is as follows:

RESULTS	1
1	1
2	2
3	3
4	4
5	5
6	7
7	9
8	10