



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Database Programming

برمجة قواعد البيانات

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Loops

- è Program structure that executes a series of program statements, and periodically evaluates an exit condition to determine if the loop should repeat or exit
- è Pretest loop: evaluates the exit condition before any program commands execute
- è Posttest loop: executes one or more program commands before the loop evaluates the exit condition for the first time
- è PL/SQL has 5 loop structures

The LOOP...EXIT Loop

LOOP

[program statements]

IF *condition* THEN

EXIT;

END IF;

[additional program statements]

END LOOP



The LOOP...EXIT WHEN Loop

LOOP

program statements

EXIT WHEN *condition;*

END LOOP;

The WHILE...LOOP

```
WHILE condition LOOP  
    program statements  
END LOOP;
```

The Numeric FOR Loop

```
FOR counter_variable IN  
    start_value .. end_value  
LOOP  
    program statements  
END LOOP;
```



è Lastly the Cursor
FOR Loop , which we
will discuss later

Loops: Simple Loop

```
create table number_table(  
    num NUMBER(10)  
);
```

```
DECLARE  
    i number_table.num%TYPE := 1;  
BEGIN  
    LOOP  
        INSERT INTO number_table  
            VALUES (i);  
        i := i + 1;  
        EXIT WHEN i > 10;  
    END LOOP;  
END;
```


Loops: FOR Loop

```
DECLARE
  i      number_table.num%TYPE;
BEGIN
  FOR i IN 1..10 LOOP
    INSERT INTO number_table VALUES (i);
  END LOOP;
END;
```

Notice that *i* is incremented automatically

Loops: WHILE Loop

```
DECLARE
i      number_table.num%TYPE:=1;
BEGIN
  WHILE i <= 10 LOOP
    INSERT INTO number_table
    VALUES (i);
    i := i + 1;
  END LOOP;
END;
```



THE END