

PL/SQL - NESTED LOOPS

http://www.tutorialspoint.com/plsql/plsql_nested_loops.htm

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PL/SQL allows using one loop inside another loop. Following section shows few examples to illustrate the concept.

The syntax for a nested basic LOOP statement in PL/SQL is as follows:

```
LOOP
  Sequence of statements1
  LOOP
    Sequence of statements2
  END LOOP;
END LOOP;
```

The syntax for a nested FOR LOOP statement in PL/SQL is as follows:

```
FOR counter1 IN initial_value1 .. final_value1 LOOP
  sequence_of_statements1
  FOR counter2 IN initial_value2 .. final_value2 LOOP
    sequence_of_statements2
  END LOOP;
END LOOP;
```

The syntax for a nested WHILE LOOP statement in Pascal is as follows:

```
WHILE condition1 LOOP
  sequence_of_statements1
  WHILE condition2 LOOP
    sequence_of_statements2
  END LOOP;
END LOOP;
```

Example:

The following program uses a nested basic loop to find the prime numbers from 2 to 100:

```
DECLARE
  i number(3);
  j number(3);
BEGIN
  i := 2;
  LOOP
    j:= 2;
    LOOP
      exit WHEN ((mod(i, j) = 0) or (j = i));
      j := j +1;
    END LOOP;
    IF (j = i ) THEN
      dbms_output.put_line(i || ' is prime');
    END IF;
    i := i + 1;
    exit WHEN i = 50;
  END LOOP;
END;
/
```

When the above code is executed at SQL prompt, it produces the following result:

```
2 is prime
3 is prime
5 is prime
7 is prime
```

```
11 is prime
13 is prime
17 is prime
19 is prime
23 is prime
29 is prime
31 is prime
37 is prime
41 is prime
43 is prime
47 is prime
```

```
PL/SQL procedure successfully completed.
```