

# 定義/呼叫函數

範例1.：

```
DECLARE
    a number;
    b number;
    c number;

-- FUNCTION 功能名稱(參數 IN 數據類型)
-- RETURN 回傳值 (FUNCTION 必須有回傳值)
-- IS
-- 回傳值名稱;
FUNCTION findMax(x IN number, y IN number)
RETURN number
IS
    z number;

-- 功能主程式
BEGIN
    IF x > y THEN
        z:= x;
    ELSE
        z:= y;
    END IF;

    RETURN z;
END;

BEGIN
    a:= 23;
    b:= 45;

    c := findMax(a, b);
    dbms_output.put_line(' Maximum of (23,45): ' || c);

END;
/
```

db<>fiddle
Oracle
21c
run
markdown

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```

1 DECLARE
2   a number;
3   b number;
4   c number;
5
6   -- FUNCTION 功能名稱 (參數 IN 數據類型)
7   -- RETURN 回傳值 (FUNCTION 必須有回傳值)
8   -- IS
9   -- 回傳值名稱;
10  FUNCTION findMax(x IN number, y IN number)
11  RETURN number
12  IS
13      z number;
14
15  -- 功能主程式
16  BEGIN
17      IF x > y THEN
18          z := x;
19      ELSE
20          z := y;
21      END IF;
22
23      RETURN z;
24  END;
25
26
27  BEGIN
28      a := 23;
29      b := 45;
30
31      c := findMax(a, b);
32      dbms_output.put_line(' Maximum of (23,45): ' || c);
33
34  END;
35  /

```

1 rows affected  
dbms\_output:  
Maximum of (23,45): 45

## 範例2.

邏輯概念：

一開始輸入  $\text{num} := 6$ ，呼叫功能“ $\text{fact}(6)$ ”，進入ELSE得到  $6 * \text{fact}(5)$ ，此時執行  $\text{fact}(5)$

得到  $5 * \text{fact}(4)$ ，此時執行  $\text{fact}(4)$ ，以此類推，執行到  $\text{fact}(1)$ ，執行得到  $1 * \text{fact}(0)$

$\text{fact}(0) = 1$ ，整趟執行結束

最後變成  $6 * 5 * 4 * 3 * 2 * 1 * 1(\text{fact}(0)) = 720$

```

DECLARE
    num number;
    factorial number;

```

```

FUNCTION fact(x number)
RETURN number
IS
    f number;
BEGIN
    IF x=0 THEN
        f := 1;
    ELSE
        f := x * fact(x-1);
    END IF;
RETURN f;
END;

BEGIN
    num:= 6;
    factorial := fact(num);
    dbms_output.put_line(' Factorial ' || num || ' is ' || factorial);
END;
/

```

db<>fiddle Oracle 21c run markdown

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<pre> 1 DECLARE 2   num number; 3   factorial number; 4 5 FUNCTION fact(x number) 6 RETURN number 7 IS 8   f number; 9 BEGIN 10  IF x=0 THEN 11    f := 1; 12  ELSE 13    f := x * fact(x-1); 14  END IF; 15 RETURN f; 16 END; 17 18 19 BEGIN 20   num:= 6; 21   factorial := fact(num); 22   dbms_output.put_line(' Factorial '    num    ' is '    factorial); 23 END; 24 / </pre>	<pre> 1 rows affected  dbms_output: Factorial 6 is 720 </pre>
--	---