

## **FIBONACCI**

```
declare
    n1 number:=0;
    n2 number:=1;
    temp number;

    n number:=&n;
    i number;
begin
    dbms_output.put_line(n1);
    dbms_output.put_line(n2);

    for i in 2..n
    loop
        temp:=n1+n2;
        n1:=n2;
        n2:=temp;

        dbms_output.put_line(temp);
    end loop;
end;
```

## **OUTPUT**

SQL> @fib.sql

21 /

Enter value for n: 5

old 6: n number:=&n;

new 6: n number:=5;

0

1

1

2

3

5

PL/SQL procedure successfully completed.

## **FACTORIAL OF A NUMBER**

```
declare
    fact number:=1;
    n number:= &n;

begin
    for i in 1..n
    loop
        fact:=fact*i;
        n:=n+1;
    end loop;
    dbms_output.put_line('Factorial is '|| fact);
end;
```

## **OUTPUT**

SQL> @factorial.sql

16 /

Enter value for n: 5

old 3: n number:= &n;

new 3: n number:= 5;

Factorial is 120

PL/SQL procedure successfully completed.

## **PALINDROME**

```
declare
  s varchar(10);
  l varchar(20);
  t varchar(10);
  i number;

begin
  s:='&string';
  for i in reverse 1..length(s)
  loop
    l:=substr(s,i,1);
    t:= t||l||l;
  end loop;

  if t=s then
    dbms_output.put_line(t||"||" is palindrome');

  else
    dbms_output.put_line(t||"||" is not palindrome');

  end if;
end;
```

## **OUTPUT 1**

```
SQL> @palind.sql
23 /
Enter value for string: madam
old 8:  s:='&string';
new 8:  s:='madam';
madam is palindrome
```

PL/SQL procedure successfully completed.

## **OUTPUT 2**

```
SQL> @palind.sql
23 /
Enter value for string: sree
old 8:  s:='&string';
new 8:  s:='sree';
sree is not palindrome
```

## **FACTORIAL USING FUNCTION**

```
CREATE OR REPLACE FUNCTION FACTORIAL(n IN NUMBER)
RETURN NUMBER
IS
FACT NUMBER :=1;
BEGIN
    FOR i in 1..n
    LOOP
        FACT:=FACT*i;
    END LOOP;

RETURN FACT;
END;
```

```
SQL> @factfn.sql
15 /
```

Function created.

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//FACT CALLING

```
DECLARE
    num NUMBER :=&num;
    a NUMBER;

BEGIN
    a:=FACTORIAL(num);
    dbms_output.put_line('Factorial is '||a);
END;
```

## **OUTPUT**

```
SQL> @factfn.sql
14 /
```

Function created.

```
SQL> @factcall.sql
9 /
```

Enter value for num: 4

old 2: num number :=&num;

new 2: num number :=4;

Factorial is 24

PL/SQL procedure successfully completed.