

EXNO : 12

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WORKING WITH CURSOR,PROCEDURES AND FUNCTION

Program 1

FACTORIAL OF A NUMBER USING FUNCTION

```
CREATE OR REPLACE FUNCTION itfact (a NUMBER) RETURN NUMBER IS
    fact NUMBER := 1; b NUMBER;
BEGIN b
    := a;
    WHILE b > 0 LOOP
        fact := fact * b; b
        := b - 1;
    END LOOP;
    RETURN fact;
END;
/
```

Function created.

```
DECLARE result
    NUMBER;
BEGIN
    result := itfact(7); -- Call the function with 7 as input
    DBMS_OUTPUT.PUT_LINE('The factorial of 7 is ' || result);
END;
/
```

The factorial of 7 is 5040

Statement processed.

Program 2

Write a PL/SQL program using Procedures IN,INOUT,OUT parameters to retrieve the corresponding book information in library

-- Create a simple table for the library books

```
CREATE TABLE library (  
  book_id INT PRIMARY KEY,  
  book_name VARCHAR2(100),  
  author_name VARCHAR2(100)  
);
```

-- Sample data insertion

```
INSERT INTO library VALUES (1, 'Introduction to PL/SQL', 'John Doe');  
INSERT INTO library VALUES (2, 'Advanced SQL', 'Jane Smith');
```

-- Procedure to retrieve book information

```
CREATE OR REPLACE PROCEDURE get_book_info (  
  p_book_id IN INT, p_book_name IN OUT  
  VARCHAR2, p_author_name OUT VARCHAR2  
) IS  
BEGIN  
  -- Retrieve book information based on the book_id  
  SELECT book_name, author_name  
  INTO p_book_name, p_author_name  
  FROM library  
  WHERE book_id = p_book_id;  
  
  -- Modify book_name if needed (optional, based on INOUT)  
  p_book_name := p_book_name || ' - Updated';  
END;  
/
```

-- Test the procedure

```
DECLARE v_book_name  
  VARCHAR2(100); v_author_name  
  VARCHAR2(100);  
BEGIN  
  v_book_name := 'Sample Book'; -- Initial value  
  get_book_info(1, v_book_name, v_author_name); -- Fetch book info for ID 1  
  DBMS_OUTPUT.PUT_LINE('Book Name: ' || v_book_name); -- Output modified book name  
  DBMS_OUTPUT.PUT_LINE('Author Name: ' || v_author_name); -- Output author name  
END;  
/
```

Book Name: Introduction to PL/SQL - Updated
Author Name: John Doe

Statement processed.