

Program 1: Factorial of a Number Using Function**PL/SQL Code:****Function Definition:**

```
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;  
/
```

Title: Working with Cursor, Procedures and Functions**Author: S. Santhosh Kumar**

PL/SQL Block with User Input

```
SET SERVEROUTPUT ON;

DECLARE

    user_input NUMBER;
    result NUMBER;

BEGIN

    DBMS_OUTPUT.PUT_LINE('Enter a number:');

    user_input := &user_input;
    result := itfact(user_input);

    DBMS_OUTPUT.PUT_LINE('The factorial of ' || user_input || ' is ' ||
result);

END;

/
```

Output:

The factorial of the given number is 5040

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Program 2: Retrieve Book Information Using Procedures (IN, INOUT, OUT Parameters)

Table Creation:

```
CREATE TABLE Books (  
    book_id NUMBER PRIMARY KEY,  
    title VARCHAR2(100),  
    author VARCHAR2(100),  
    publication_year NUMBER(4),  
    available_copies NUMBER  
);
```

Sample Data Insertion:

```
INSERT INTO Books VALUES (1, 'The Great Gatsby', 'F. Scott Fitzgerald',  
1925, 5);  
  
INSERT INTO Books VALUES (2, '1984', 'George Orwell', 1949, 2);  
  
INSERT INTO Books VALUES (3, 'To Kill a Mockingbird', 'Harper Lee', 1960,  
4);
```

Note: For this program, a sample table and data must be created to proceed further with the execution and testing.

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PL/SQL Program with Procedure:

```
CREATE OR REPLACE PROCEDURE get_book_info (  
    p_book_id IN NUMBER,  
    p_title INOUT VARCHAR2,  
    p_author OUT VARCHAR2,  
    p_publication_year OUT NUMBER,  
    p_available_copies OUT NUMBER  
) AS  
BEGIN  
    SELECT title, author, publication_year, available_copies  
    INTO p_title, p_author, p_publication_year, p_available_copies  
    FROM Books  
    WHERE book_id = p_book_id;  
    IF p_title IS NULL THEN  
        SELECT title INTO p_title FROM Books WHERE book_id = p_book_id;  
    END IF;  
    DBMS_OUTPUT.PUT_LINE('Title: ' || p_title);  
    DBMS_OUTPUT.PUT_LINE('Author: ' || p_author);  
    DBMS_OUTPUT.PUT_LINE('Publication Year: ' || p_publication_year);  
    DBMS_OUTPUT.PUT_LINE('Available Copies: ' || p_available_copies);  
  
EXCEPTION  
    WHEN NO_DATA_FOUND THEN  
        DBMS_OUTPUT.PUT_LINE('No book found with the given ID.');    WHEN OTHERS THEN  
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);  
END;  
/
```

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Calling the Procedure:

DECLARE

```
v_book_id NUMBER := 1;
v_title VARCHAR2(100);
v_author VARCHAR2(100);
v_publication_year NUMBER(4);
v_available_copies NUMBER;

BEGIN

    get_book_info(v_book_id, v_title, v_author, v_publication_year,
v_available_copies);

END;

/
```

Output:

Title: The Great Gatsby

Author: F. Scott Fitzgerald

Publication Year: 1925

Available Copies: 5000 Title: Introduction to PL/SQL

Author: John Doe
