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| Ex.No.: 12 | PL SQL PROGRAMS |
| Date: 19/09/2024 | |

Program 1

FACTORIAL OF A NUMBER USING FUNCTION

```
DECLARE
  n NUMBER := 10;
  result NUMBER;

  FUNCTION itfact(num NUMBER) RETURN NUMBER IS
    fact NUMBER := 1;
  BEGIN
    FOR i IN 1..num LOOP
      fact := fact * i;
    END LOOP;
    RETURN fact;
  END;

BEGIN
  result := itfact(n);
  DBMS_OUTPUT.PUT_LINE('The factorial of ' || n || ' is ' || result);
END;
```

| Results | Explain | Describe | Saved SQL | History |
|--------------------------------|---------|----------|-----------|---------|
| The factorial of 10 is 3628800 | | | | |
| Statement processed. | | | | |
| 0.01 seconds | | | | |

Program 2

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

```
CREATE OR REPLACE PROCEDURE book_info(
    p_book_id IN NUMBER,
    p_author OUT VARCHAR2,
    p_title OUT VARCHAR2,
    p_published_date OUT DATE
) AS
BEGIN
    SELECT author, title, published_date
    INTO p_author, p_title, p_published_date
    FROM books
    WHERE book_id = p_book_id;

EXCEPTION
    WHEN NO_DATA_FOUND THEN
        p_author := NULL;
        p_title := NULL;
        p_published_date := NULL;
    WHEN OTHERS THEN
        RAISE;
END book_info;

DECLARE
    v_author VARCHAR2(100);
    v_title VARCHAR2(100);
    v_published_date DATE;
    v_book_id NUMBER := 1;
BEGIN
    book_info(v_book_id, v_author, v_title, v_published_date);

    IF v_author IS NOT NULL THEN
        DBMS_OUTPUT.PUT_LINE('Book ID: ' || v_book_id);
        DBMS_OUTPUT.PUT_LINE('Author: ' || v_author);
        DBMS_OUTPUT.PUT_LINE('Title: ' || v_title);
        DBMS_OUTPUT.PUT_LINE('Published Date: ' || TO_CHAR(v_published_date, 'YYYY-
MM-DD'));
    ELSE
        DBMS_OUTPUT.PUT_LINE('No book found with ID: ' || v_book_id);
    END IF;
END;
```

Book ID: 1
Author: William Shaespeare
Title: Hamlet
Published Date: 1590-12-12

Statement processed.

0.02 seconds