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| EX.NO.: 12 | PL SQL PROGRAMS |
| DATE : 1/10/2024 | |

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 |
|---|---------|----------|-----------|---------|
| <p>The factorial of 10 is 3628800</p> <p>Statement processed.</p> <p>0.01 seconds</p> | | | | |

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