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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.
```