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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.
```