

Exp12 **WORKING WITH CURSOR,PROCEDURES AND FUNCTIONS**

1 -- Create a function to find factorial of a number

```
CREATE OR REPLACE FUNCTION factorial(n NUMBER)
RETURN NUMBER
IS
    result NUMBER := 1;
BEGIN
    IF n < 0 THEN
        RAISE_APPLICATION_ERROR(-20001, 'Number must be non-negative.');
```

ELSIF n = 0 THEN

```
        RETURN 1;
    ELSE
        FOR i IN 1..n LOOP
            result := result * i;
        END LOOP;
        RETURN result;
    END IF;
END;
/
```

-- PL/SQL block to call the function

```
DECLARE
    num NUMBER := 5;    -- you can change this number
    fact NUMBER;
BEGIN
    fact := factorial(num);
    DBMS_OUTPUT.PUT_LINE('Factorial of ' || num || ' is: ' || fact);
END;
/
```

2 CREATE TABLE BOOKS (

BOOK_ID NUMBER PRIMARY KEY,

```

TITLE VARCHAR2(50),
AUTHOR VARCHAR2(50),
PRICE NUMBER
);
INSERT INTO BOOKS VALUES (101, 'DBMS Concepts', 'Navathe', 550);
INSERT INTO BOOKS VALUES (102, 'Let Us C', 'Yashwant Kanetkar', 450);
INSERT INTO BOOKS VALUES (103, 'Python Basics', 'Wes McKinney', 600);
COMMIT;
CREATE OR REPLACE PROCEDURE get_book_info(
p_book_id IN BOOKS.BOOK_ID%TYPE,
p_book_name IN OUT BOOKS.TITLE%TYPE,
p_author OUT BOOKS.AUTHOR%TYPE,
p_price OUT BOOKS.PRICE%TYPE
)
IS
BEGIN
SELECT TITLE, AUTHOR, PRICE
INTO p_book_name, p_author, p_price
FROM BOOKS
WHERE BOOK_ID = p_book_id;
-- Modify INOUT parameter
p_book_name := UPPER(p_book_name);
EXCEPTION
WHEN NO_DATA_FOUND THEN
DBMS_OUTPUT.PUT_LINE('No book found with ID ' || p_book_id);
END;
/
DECLARE
v_book_id BOOKS.BOOK_ID%TYPE := 102;
v_book_name BOOKS.TITLE%TYPE := 'Unknown';
v_author BOOKS.AUTHOR%TYPE;
v_price BOOKS.PRICE%TYPE;

```

```
BEGIN
get_book_info(v_book_id, v_book_name, v_author, v_price);
DBMS_OUTPUT.PUT_LINE('Book ID: ' || v_book_id);
DBMS_OUTPUT.PUT_LINE('Book Name (Uppercase INOUT): ' || v_book_name);
DBMS_OUTPUT.PUT_LINE('Author: ' || v_author);
DBMS_OUTPUT.PUT_LINE('Price: ' || v_price);
END;
/
```