

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;  
/
```