

## EXERCISE 17

Program 1

FACTORIAL OF A NUMBER USING FUNCTION

```
CREATE OR REPLACE FUNCTION calculate_factorial (
```

```
    p_number IN NUMBER
```

```
) RETURN NUMBER
```

```
IS
```

```
    v_result NUMBER := 1;
```

```
BEGIN
```

```
    FOR i IN 1..p_number LOOP
```

```
        v_result := v_result * i;
```

```
    END LOOP;
```

```
    RETURN v_result;
```

```
END; /
```

```
-- PL/SQL block to test the factorial function
```

```
DECLARE
```

```
    v_number NUMBER := 5; -- Example number
```

```
    v_factorial NUMBER;
```

```
BEGIN
```

```
    v_factorial := calculate_factorial(v_number);
```

```
    DBMS_OUTPUT.PUT_LINE('Factorial of ' || v_number || ' is: ' || v_factorial);
```

```
END;
```

```
/
```

## 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 get_book_info (  
    p_book_id IN NUMBER,  
    p_title OUT VARCHAR2,  
    p_author OUT VARCHAR2,  
    p_year_published IN OUT NUMBER  
) IS  
BEGIN  
    SELECT title, author, year_published  
    INTO p_title, p_author, p_year_published  
    FROM books  
    WHERE book_id = p_book_id;  
    p_year_published := p_year_published + 1;  
EXCEPTION  
    WHEN NO_DATA_FOUND THEN  
        DBMS_OUTPUT.PUT_LINE('Book not found.');    WHEN OTHERS THEN  
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);  
END;  
/
```

```
DECLARE  
    v_book_id NUMBER := 101; -- Example book ID  
    v_title VARCHAR2(100);  
    v_author VARCHAR2(100);  
    v_year_published NUMBER := 2000;  
BEGIN  
    get_book_info(v_book_id, v_title, v_author, v_year_published);  
    DBMS_OUTPUT.PUT_LINE('Book ID: ' || v_book_id);  
    DBMS_OUTPUT.PUT_LINE('Title: ' || v_title);  
    DBMS_OUTPUT.PUT_LINE('Author: ' || v_author);  
    DBMS_OUTPUT.PUT_LINE('Year Published (adjusted): ' || v_year_published);  
END;  
/
```