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;
/
```