Week 2 task

1) **PL/SQL programming**

Exercise – 1: control structures

- **IF...ELSIF...ELSE Example**

```
DECLARE
  num NUMBER := -5;
BEGIN
  IF num > 0 THEN
    DBMS_OUTPUT.PUT_LINE('Positive Number');
  ELSIF num < 0 THEN
    DBMS_OUTPUT.PUT_LINE('Negative Number');
  ELSE
    DBMS_OUTPUT.PUT_LINE('Zero');
  END IF;
END;
```

Output:
Negative Number

- **Simple LOOP with EXIT**

```
DECLARE
  i NUMBER := 1;
BEGIN
  LOOP
    DBMS_OUTPUT.PUT_LINE('Value: ' || i);
    i := i + 1;
    EXIT WHEN i > 5;
  END LOOP;
END;
```

Output:

Value: 1
Value: 2
Value: 3
Value: 4
Value: 5

- **WHILE LOOP**

```
DECLARE
 i NUMBER := 1;
BEGIN
 WHILE i <= 5 LOOP
  DBMS_OUTPUT.PUT_LINE('Count: ' || i);
  i := i + 1;
 END LOOP;
END;
```

Output:
Count: 1
Count: 2
Count: 3
Count: 4
Count: 5

- **FOR LOOP**

```
BEGIN
 FOR i IN 1..5 LOOP
  DBMS_OUTPUT.PUT_LINE('Number: ' || i);
 END LOOP;
END;
```

Output:
Number: 1
Number: 2
Number: 3
Number: 4
Number: 5

- **GOTO Statement**

```
DECLARE
 x NUMBER := 1;
BEGIN
 <<start_loop>>
 DBMS_OUTPUT.PUT_LINE('X is: ' || x);
```

```
  x := x + 1;
  IF x <= 3 THEN
    GOTO start_loop;
  END IF;
END;
```

Output:
X is: 1
X is: 2
X is: 3

- **CASE Statement**

```
DECLARE
  grade CHAR := 'B';
BEGIN
  CASE grade
    WHEN 'A' THEN DBMS_OUTPUT.PUT_LINE('Excellent');
    WHEN 'B' THEN DBMS_OUTPUT.PUT_LINE('Good');
    WHEN 'C' THEN DBMS_OUTPUT.PUT_LINE('Average');
    ELSE DBMS_OUTPUT.PUT_LINE('Fail');
  END CASE;
END;
```

Output:
Good

Exercise: 3 Stores procedures
Procedure: Check Even or Odd

```
BEGIN
  check_even_odd(7);
END;
```

Output:
7 is Odd

Procedure: Find Factorial

```
DECLARE
  res NUMBER;
BEGIN
  find_factorial(5, res);
  DBMS_OUTPUT.PUT_LINE('Factorial is: ' || res);
END;
```

Output:
Factorial is: 120

Procedure: Grade Calculation

```
BEGIN
  grade_calc(82);
END;
```

Output:
Grade: B

Procedure: Sum of First N Natural Numbers

```
DECLARE
  result NUMBER;
BEGIN
  sum_n_numbers(10, result);
  DBMS_OUTPUT.PUT_LINE('Sum = ' || result);
END;
```

Output:
Sum = 55