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## Lab - 14

```
create database Lab14;
```

```
use Lab14;
```

```
DELIMITER //
```

```
CREATE PROCEDURE FindGreatest(IN A INT, IN B INT, IN C INT)
```

```
BEGIN
```

```
    IF A > B AND A > C THEN
```

```
        SELECT CONCAT('A is the greatest: ', A) AS Result;
```

```
    ELSEIF B > C THEN
```

```
        SELECT CONCAT('B is the greatest: ', B) AS Result;
```

```
    ELSE
```

```
        SELECT CONCAT('C is the greatest: ', C) AS Result;
```

```
    END IF;
```

```
END;
```

```
//
```

```
DELIMITER ;
```

```
CALL FindGreatest(10, 20, 15);
```

```
+-----+
| Result |
+-----+
| B is the greatest: 20 |
+-----+
1 row in set (0.01 sec)
```

```
DELIMITER //
```

```
CREATE PROCEDURE DisplayMessage()
```

```
BEGIN
```

```
    DECLARE i INT DEFAULT 1;
```

```
    WHILE i <= 20 DO
```

```
        SELECT 'Welcome to PL/SQL Programming' AS Message;
```

```
        SET i = i + 1;
```

```
    END WHILE;
```

```
END;
```

```
//
```

```
DELIMITER ;
```

```
CALL DisplayMessage();
```

```

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.00 sec)

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.01 sec)

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.02 sec)

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.02 sec)

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.03 sec)

+-----+
| Message |
+-----+
| Welcome to PL/SQL Programming |
+-----+
1 row in set (0.03 sec)

```

DELIMITER //

CREATE FUNCTION FindFactorial(N INT) RETURNS INT

BEGIN

    DECLARE Factorial INT DEFAULT 1;

    DECLARE i INT DEFAULT 1;

    WHILE i <= N DO

```
        SET Factorial = Factorial * i;
        SET i = i + 1;
    END WHILE;
    RETURN Factorial;
END;
//
```

```
DELIMITER ;

SELECT FindFactorial(5) AS Factorial;

DELIMITER //
```

```
CREATE PROCEDURE GenerateFibonacci(IN N INT)
BEGIN
```

```
    DECLARE a INT DEFAULT 0;
    DECLARE b INT DEFAULT 1;
    DECLARE c INT;
    DECLARE i INT DEFAULT 3;
```

```
    SELECT a AS FibonacciSeries UNION ALL
    SELECT b;
```

```
    WHILE i <= N DO
```

```
        SET c = a + b;
        SELECT c;
        SET a = b;
        SET b = c;
        SET i = i + 1;
```

```
END WHILE;
```

```
END;
```

```
//
```

```
DELIMITER ;
```

```
CALL GenerateFibonacci(10);
```

```
+-----+
| FibonacciSeries |
+-----+
|           0 |
|           1 |
+-----+
2 rows in set (0.01 sec)
```

```
+-----+
| c |
+-----+
|  1 |
+-----+
1 row in set (0.02 sec)
```

```
+-----+
| c |
+-----+
|  2 |
+-----+
1 row in set (0.03 sec)
```

```
+-----+
| c |
+-----+
|  3 |
+-----+
1 row in set (0.03 sec)
```

```
+-----+
| c |
+-----+
|  5 |
+-----+
1 row in set (0.03 sec)
```

```

+-----+
| c      |
+-----+
|      8 |
+-----+
1 row in set (0.04 sec)

+-----+
| c      |
+-----+
|     13 |
+-----+
1 row in set (0.04 sec)

+-----+
| c      |
+-----+
|     21 |
+-----+
1 row in set (0.05 sec)

+-----+
| c      |
+-----+
|     34 |
+-----+
1 row in set (0.05 sec)

Query OK, 0 rows affected (0.05 sec)

```

DELIMITER //

```

CREATE FUNCTION SumOfN(N INT) RETURNS INT
DETERMINISTIC
BEGIN
    DECLARE Total INT DEFAULT 0;
    DECLARE i INT DEFAULT 1;

```

```
WHILE i <= N DO
    SET Total = Total + i;
    SET i = i + 1;
END WHILE;
RETURN Total;
END;
//
```

```
DELIMITER ;
SELECT SumOfN(10) AS Sum;
```

```
+-----+
| Sum   |
+-----+
|    55 |
+-----+
1 row in set (0.00 sec)
```