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Experiment – 13

create database exp13;

use exp13;

1. Write a PL/SQL code to accept the value of A, B & C display which is greater.

```
DELIMITER $$


CREATE PROCEDURE compare_values(A INT, B INT, C INT)
BEGIN
   IF A > B AND A > C THEN
      SELECT 'A is the greatest';
   ELSEIF B > A AND B > C THEN
      SELECT 'B is the greatest';
   ELSE
      SELECT 'C is the greatest';
   END IF;
END $$


DELIMITER ;
```

```
mysql> CALL compare_values(10, 20, 30);
+---------------------+
| C is the greatest |
+---------------------+
| C is the greatest |
+---------------------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)
```

2. Using PL/SQL Statements create a simple loop that display message "Welcome to PL/SQL Programming" 20 times.

```
DELIMITER $$

CREATE PROCEDURE display_welcome()
BEGIN
  DECLARE counter INT DEFAULT 1;
  WHILE counter <= 20 DO
    SELECT 'Welcome to PL/SQL Programming';
    SET counter = counter + 1;
  END WHILE;
END $$

DELIMITER ;
CALL display_welcome();
```

3. Write a PL/SQL code block to find the factorial of a number.

```
DELIMITER $$
```

```sql
CREATE PROCEDURE factorial(num INT)
BEGIN
  DECLARE fact INT DEFAULT 1;
  DECLARE i INT DEFAULT 1;


  WHILE i <= num DO
    SET fact = fact * i;
    SET i = i + 1;
  END WHILE;


  SELECT CONCAT('Factorial of ', num, ' is: ', fact) AS Result;
END $$


DELIMITER ;
CALL factorial(5);
```

```
+---------------------------+
| Result                    |
+---------------------------+
| Factorial of 5 is: 120    |
+---------------------------+
1 row in set (0.00 sec)
```

4. Write a PL/SQL program to generate Fibonacci series.

```sql
DELIMITER $$


CREATE PROCEDURE fibonacci_series(n INT)
BEGIN
```

```sql
    DECLARE a INT DEFAULT 0;

    DECLARE b INT DEFAULT 1;

    DECLARE c INT;

    DECLARE counter INT DEFAULT 1;


    -- Display first two Fibonacci numbers
    SELECT a;

    SELECT b;


    -- Generate the remaining Fibonacci numbers
    WHILE counter < n DO

        SET c = a + b;

        SELECT c;

        SET a = b;

        SET b = c;

        SET counter = counter + 1;

    END WHILE;
END $$


DELIMITER ;
CALL fibonacci_series(10);
```

5. Write a PL/SQL code to fund the sum of first N numbers

```sql
DELIMITER $$


CREATE PROCEDURE sum_of_numbers(n INT)
```

```sql
BEGIN
    DECLARE sum INT DEFAULT 0;
    DECLARE i INT DEFAULT 1;


    WHILE i <= n DO
        SET sum = sum + i;
        SET i = i + 1;
    END WHILE;


    SELECT CONCAT('Sum of first ', n, ' numbers is: ', sum) AS Result;
END $$


DELIMITER ;
CALL sum_of_numbers(10);
```

```
+---------------------------------------+
| Result                                |
+---------------------------------------+
| Sum of first 10 numbers is: 55        |
+---------------------------------------+
1 row in set (0.00 sec)
```