

SAVEETHA SCHOOL OF ENGINEERING SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES CHENNAI – 602105



DBMS EXPERIMENT 23:

Write a recursive MySQL computing the factorial of a given number using high level programing Extension with **Functions**.

OUTPUT:

Progarm:-1

```
Mysql> DELIMITER //
Mysql> CREATE FUNCTION customerlavel(p_CREDITLIMIT INT)RETURNS VARCHAR(16)
-> DETERMINISTIC
-> BEGIN
-> DECLARE lvl varchar(10);
-> IF p_CREDITLIMIT > 50000 THEN
-> SET lvl='PLATINUM';
-> ELSEIF(p_CREDITLIMIT <-50000 AND p_CREDITLIMIT>-10000)THEN
-> SET lvl='GOLD';
-> ELSEIF p_CREDITLIMIT < 10000 THEN
-> SET lvl='SLIVER';
-> END IF;
-> RETURN (lvl);
-> END
-> //
Query OK, 0 rows affected (0.00 sec)

Mysql> SELECT NAME, customerLevel(CREDITLIMIT)
-> FROM CUSTOMER
-> ORDER BY NAME //
```

Progarm:-2

Progarm:-1

Progarm:-2

```
nysql> DELIMITER S$
nysql> CREATE PROCEDURE find_fact(IN n INT)
-> BEGIN
     -> SET @@GLOBAL.max_sp_recursion_depth=255;
-> SET @@session.max_sp_recursion_depth=255;
-> CALL factorial(n.@fact);
-> SELECT @fact;
-> END
     > 55
Query OK, 8 rows affected (8.88 sec)
nysql> DELIMITER S$
nysql> CREATE PROCEDURE factor(al(IN n INT,OUT fact INT)
     -> BEGIN
     -> IF n=1 THEN
-> SET fact:=1;
     -> ELSE
           CALL factorial(n-1,fact);
SET fact:=n*fact;
           END IF;
     -> END
Query OK, 0 rows affected (0.01 sec)
nysql> CALL find_fact(5);
      -> 55
| Sfact |
129 |
1 row in set (0.00 sec)
Query OK, 0 rows affected (0.01 sec)
```

Progarm:-1

```
mysql> CREATE FUNCTION customerlevel(p_CREDITLIMIT_INT)RETURNS VARCHAR(18)
    -> DETERMINISTIC
    -> BEGIN
    -> DECLARE [v] varchar(10);
    -> IF p CREDITLIMIT > 50000 THEN
    -> SET lvl='PLATINUM';
    -> ELSEIF(p_CREDITLIMIT <=50000 AND p_CREDITLIMIT>=10000)THEN
-> SET lvl ='COLD';
-> ELSEIF p_CREDITLIMIT < 10000 THEN
    -> SET 1v1 ='SLIVER';
    > END IF;
    -> RETURN (lv1);
    > END
    -> 11
Query OK, 0 rows affected (0.00 sec)
mysql> SELECT NAME,customerLevel(CREDITLIMIT)
    -> FROM CUSTOMER
    -> ORDER BY NAME //
```

Progarm:-2

```
nysql> DELIMITER S$
nysql> CREATE PROCEDURE find_fact(IN n INT)
   -> BEGIN
   -> SET @@GLOBAL.max_sp_recursion_depth=255;
   -> SET @@session.nax_sp_recursion_depth=255;
   -> CALL factorial(n,@fact);
   → SELECT @fact;
   -> END
   > 55
Query OK, 0 rows affected (0.00 sec)
mysql> DELIMITER SS
mysql> CREATE PROCEDURE factorial(IN m INT,OUT fact INT)
   -> BEGIN
   -> IF n=1 THEN
          SET fact:=1;
   -5
   -> ELSE
   +5
         CALL factorial(n-1, fact);
         SET fact:=n*fact;
        END IF;
   -> END
   > 55
Query OK, 0 rows affected (0.01 sec)
mysql> CALL find_fact(5);
   -> 55
Stact |
   129 I
1 row in set (0.00 sec)
Ouery OK, 8 rows affected (8.81 sec)
```

```
mysql> DELIMITER //
mysql> CREATE FUNCTION CustomerLevel(p_CREDITLIMIT INT) RETURNS VARCHAR(10)
   -> DETERMINISTIC
   -> BEGIN
   -> DECLARE lvl VARCHAR(10);
   -> IF p_CREDITLIMIT > 50000 THEN
   -> SET lvl = 'PLATINUM';
   -> ELSEIF (p_CREDITLIMIT <= 50000 AND p_CREDITLIMIT >= 10000) THEN
   -> SET lvl = 'GOLD';
   -> ELSEIF p_CREDITLIMIT < 10000 THEN
   -> SET lvl = 'SILVER';
   -> END IF;
   -> RETURN (lvl);
   -> END
   -> //
Query OK, 0 rows affected (0.00 sec)
mysql> SELECT NAME, CustomerLevel(CREDITLIMIT)
   -> FROM CUSTOMER
   -> ORDER BY NAME
   -> //
ERROR 1054 (42S22): Unknown column 'NAME' in 'field list'
mysql> SELECT CNAME, CustomerLevel(CREDITLIMIT)
    -> FROM CUSTOMER
    -> ORDER BY NAME
ERROR 1054 (42522): Unknown column 'NAME' in 'order clause'
mysql> SELECT CNAME, CustomerLevel(CREDITLIMIT) FROM CUSTOMER ORDER BY CNAME//
+----+
| CNAME | CustomerLevel(CREDITLIMIT) |
| DINESH | GOLD
| NAGENDRA | PLATINUM
RAJA | GOLD
RAMU
         SILVER
4 rows in set (0.00 sec)
```