DBMS LAB-7

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Assignment Question 1:

1. Create a procedure to insert a tuple into any table of bank schema.

```
mysql> delimiter //
mysql> create procedure inse(in n varchar(10), in s varchar(10),in c varchar(10))
    -> insert into customer_relation values(n,s,c);
    -> end//
Query OK, 0 rows affected (0.01 sec)

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQ
L server version for the right syntax to use near 'end' at line 1
mysql> call inse('ambu','sanmuk','sandra');
    -> ;
    -> //
Query OK, 1 row affected (0.01 sec)

mysql> call inse('abc','bca','cab');
    -> //
Query OK, 1 row affected (0.00 sec)

mysql> select * from customer_relation;//
+---------------+----------------+---------------+
| customer-name | customerstreet | customer-city |
+---------------+----------------+---------------+
| Adams         | Spring         | Pittsfield    |
| Brooks        | Senator        | Brooklyn      |
| Curry         | North          | Rye           |
| Glenn         | Sand Hill      | Woodside      |
| Green         | Walnut         | Stamford      |
| Hayes         | Main           | Harrison      |
| Johnson       | Alma           | Palo Alto     |
| Jones         | Main           | Harrison      |
| Lindsay       | Park           | Pittsfield    |
| Smith         | North          | Rye           |
| Turner        | Putnam         | Stamford      |
| Williams      | Nassau         | Princeton     |
| ambu          | sanmuk         | sandra        |
| abc           | bca            | cab           |
+---------------+----------------+---------------+
14 rows in set (0.00 sec)
```

2. Drop the created procedure.

```
mysql> drop procedure inse//
Query OK, 0 rows affected (0.01 sec)
```

3. Create a procedure that takes any 2 numbers and returns their sum and multiplication.

```
mysql> delimiter //
mysql> create procedure q3(in n1 int,in n2 int,out n3 int,out n4 int)
    -> begin
    -> set n3 = n1+n2;
    -> set n4 = n1*n2;
    -> end//
Query OK, 0 rows affected (0.01 sec)

mysql> call q3(10,5,@n3,@n4)//
Query OK, 0 rows affected (0.00 sec)

mysql> select @n3,@n4//
+------+------+
| @n3  | @n4  |
+------+------+
|   15 |   50 |
+------+------+
1 row in set (0.00 sec)
```

4. Write a procedure with only one parameter such that it returns the square root of any given number.

```
mysql> delimiter .
mysql> create procedure q4(inout a int)
    -> begin
    -> set a = sqrt(a);
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> set @a = 16;
    -> .
Query OK, 0 rows affected (0.00 sec)

mysql> call q4(@a).
Query OK, 0 rows affected (0.00 sec)

mysql> select @a.
+------+
| @a   |
+------+
|    4 |
+------+
1 row in set (0.00 sec)

mysql>
```

5. Write a Procedure that returns no.of characters in any given string.

```
mysql> delimiter .
mysql> create procedure q5(in a varchar(50),out b int)
    -> begin
    -> set b= char_length(a);
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call q5('Abhishikth',@b).
Query OK, 0 rows affected (0.00 sec)

mysql> select @b;
    -> .
+------+
| @b   |
+------+
|   10 |
+------+
1 row in set (0.00 sec)

mysql>
```

6. Write a procedure with only one parameter such that it displays the factorial of the given number.

```
mysql> delimiter .
mysql> create procedure q6(in a int)
    -> begin
    -> declare x int;
    -> declare i int;
    -> set x = 1;
    -> set i = 1;
    -> while i<=a
    -> do
    -> set x = x*i;
    -> set i = i+1;
    -> end while;
    -> select a as number, x as factorial;
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call q6(6).
+--------+-----------+
| number | factorial |
+--------+-----------+
|      6 |       720 |
+--------+-----------+
1 row in set (0.00 sec)

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

7. Write a procedure(that accepts 2 arguments,one argument has old name the other holds new name) to update name of the existing customer to a new name.

```
mysql> delimiter .
mysql> create procedure q7(in a varchar(20), in b varchar(20))
    -> begin
    -> update customer_relation
    -> set customername = b
    -> where customername = a;
    -> end .
Query OK, 0 rows affected (0.01 sec)

mysql> select customername from customer_relation;.
+--------------+
| customername |
+--------------+
| Adams        |
| Brooks       |
| Curry        |
| Glenn        |
| Green        |
| Hayes        |
| Johnson      |
| Jones        |
| Lindsay      |
| Smith        |
| Turner       |
| Williams     |
+--------------+
12 rows in set (0.00 sec)

mysql> call q7('Adams','Abhi');
    -> .
Query OK, 1 row affected (0.01 sec)

mysql> select customername from customer_relation;.
+--------------+
| customername |
+--------------+
| Abhi         |
| Brooks       |
| Curry        |
| Glenn        |
| Green        |
| Hayes        |
| Johnson      |
| Jones        |
| Lindsay      |
| Smith        |
```

8. Procedure that accepts customer id and displays whether he has loan or not.

```
mysql> create procedure q8(in a varchar(15))
    -> begin
    -> select distinct customername
    -> from customer_relation
    -> natural join
    -> borrower_relation
    -> where customername=a;
    -> end.
Query OK, 0 rows affected (0.00 sec)

mysql> call q8('Smith').
+--------------+
| customername |
+--------------+
| Smith        |
+--------------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

9. Display city of given customer and If he/she is not an existing customer create a new entry in customer table.

```
mysql> create procedure q9(in a varchar(20))
    -> begin
    -> declare b varchar(20);
    -> select customercity into b
    -> from customer_relation
    -> where customername=a;
    -> if b = NULL
    -> then
    -> insert into customer_relation values('a',NULL,NULL);
    -> else
    -> select b;
    -> end if;
    -> end .
Query OK, 0 rows affected (0.01 sec)

mysql> call q9('Smith').
+------+
| b    |
+------+
| Rye  |
+------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> call q9('aaaa').
+------+
| b    |
+------+
| NULL |
+------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> _
```

10.Display account numbers of customers whose balance is above the given amount.

```
mysql> create procedure q10(in a int)
    -> begin
    -> select accountnumber from account_relation
    -> where balance>a;
    -> end .
Query OK, 0 rows affected (0.01 sec)

mysql> call q10(700).
+---------------+
| accountnumber |
+---------------+
| A-201         |
| A-217         |
+---------------+
2 rows in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```

Assignment Question 2:

Create your own schema for employee and department to execute the following queries.

```
mysql> create table employee(
    -> emp_number int,emp_name varchar(20),
    -> designation varchar(20), salary int,
    -> grade varchar(4),age int, dept_number int);.
Query OK, 0 rows affected (0.03 sec)

mysql> insert into employee values(2021001,'Kohli','General Manager',100000,'A',33,21001);.
Query OK, 1 row affected (0.01 sec)

mysql> insert into employee values(2021002,'Abhishikth','CEO',199000,'O',18,21002);.
Query OK, 1 row affected (0.00 sec)

mysql> insert into employee values(2021003,'Shreyan','HR',99000,'A',19,21003);.
Query OK, 1 row affected (0.00 sec)

mysql> insert into employee values(2021004,'Likith','Topper',999000,'O',17,21002);.
Query OK, 1 row affected (0.01 sec)

mysql> select * from employee;.
+------------+------------+-----------------+--------+-------+------+-------------+
| emp_number | emp_name   | designation     | salary | grade | age  | dept_number |
+------------+------------+-----------------+--------+-------+------+-------------+
|    2021001 | Kohli      | General Manager | 100000 | A     |   33 |       21001 |
|    2021002 | Abhishikth | CEO             | 199000 | O     |   18 |       21002 |
|    2021003 | Shreyan    | HR              |  99000 | A     |   19 |       21003 |
|    2021004 | Likith     | Topper          | 999000 | O     |   17 |       21002 |
+------------+------------+-----------------+--------+-------+------+-------------+
4 rows in set (0.00 sec)

mysql>
```

1. Create a Procedure, which receives employee number and displays employee name, Designation and salary.

```
mysql> create procedure a2q1(in n int)
    -> begin
    -> select emp_name,designation,salary
    -> from employee
    -> where emp_number = n;
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call a2q1(2021002).
+------------+-------------+--------+
| emp_name   | designation | salary |
+------------+-------------+--------+
| Abhishikth | CEO         | 199000 |
+------------+-------------+--------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

2. Create a procedure, which receives department number and get total Salary of each department.

```
mysql> create procedure a2q2(in n int)
    -> begin
    -> select sum(salary)
    -> from employee
    -> group by dept_number;
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call a2q2(21002).
+-------------+
| sum(salary) |
+-------------+
|      100000 |
|     1198000 |
|       99000 |
+-------------+
3 rows in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

3. Write a procedure to accept Department number and display Name, Designation and Age of each employee belonging to such Department.

```
mysql> create procedure a2q3(in n int)
    -> begin
    -> select emp_name,designation,age
    -> from employee
    -> natural join
    -> department where dept_number = n;
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call a2q3(21002).
+------------+-------------+------+
| emp_name   | designation | age  |
+------------+-------------+------+
| Likith     | Topper      |   17 |
| Abhishikth | CEO         |   18 |
| Likith     | Topper      |   17 |
| Abhishikth | CEO         |   18 |
+------------+-------------+------+
4 rows in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

4. Create a procedure, which will accept Deptno and display no. of employees under different grades (Ex: grade 1, grade 2, grade 3.....).

```
mysql> create procedure a2q4(in n int)
    -> begin
    -> select count(grade)
    -> from employee
    -> where dept_number = n;
    -> end.
Query OK, 0 rows affected (0.01 sec)

mysql> call a2q4(21001).
+--------------+
| count(grade) |
+--------------+
|            1 |
+--------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

5. Make a procedure, which will accept a number and return it's Square.

```
mysql> create procedure q15(inout n int)
    -> begin
    -> set n = n*n;
    -> end.
Query OK, 0 rows affected (0.00 sec)

mysql> set @n = 5;.
Query OK, 0 rows affected (0.00 sec)

mysql> call q15(@n).
Query OK, 0 rows affected (0.00 sec)

mysql> select @n.
+------+
| @n   |
+------+
|   25 |
+------+
1 row in set (0.00 sec)

mysql>
```

←THE END→