Assignment 8

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1. Write a PL/SQL block of code to calculate the factorial of a number.

Solution

Code:

```sql
CREATE PROCEDURE `Assignment_8`.`Ques_1`(IN n INT(5))
BEGIN
    DECLARE res INT;
    SET res := 1;

    WHILE n>0 DO
        SET res:=res*n;
        SET n:=n-1;
    END WHILE;
    SELECT res;
END
```

Output:

```
MariaDB [Assignment_8]> call Ques_1(5);
+------+
| res  |
+------+
|  120 |
+------+
1 row in set (0.000 sec)

Query OK, 0 rows affected (0.001 sec)
```

2. Write a PL/SQL code block that will accept an account number from the user and debit an amount of Rs. 2000 from the account if the account has a minimum balance of Rs. 500 after the amount is debited. The process is to be fired on the Account table.

Table Name: Accounts

Account_Id	Name	Balance
AC 001	A	5000
AC 002	B	10000
AC 003	D	5000

Account_Id	Name	Balance
AC 004	E	2000
AC 005	C	250

Solution

Creating Tables:

```sql
CREATE TABLE `Accounts` (
  `Account_Id` varchar(5) NOT NULL,
  `Name` text DEFAULT NULL,
  `Balance` int(5) DEFAULT NULL,
  PRIMARY KEY (`Account_Id`)
)
```

Table after inserting values:

```
MariaDB [Assignment_8]> select * from Accounts;
+------------+------+---------+
| Account_Id | Name | Balance |
+------------+------+---------+
| AC001      | A    |    5000 |
| AC002      | B    |   10000 |
| AC003      | D    |    5000 |
| AC004      | E    |    2000 |
| AC005      | C    |     250 |
+------------+------+---------+
5 rows in set (0.000 sec)
```

Code:

```sql
CREATE PROCEDURE `Assignment_8`.`Ques_2`(IN acc varchar(5))
BEGIN
    DECLARE bal INT(5);
    SELECT Balance into bal from Accounts where Account_Id=acc;
    IF bal>=2500 THEN
        update Accounts set Balance=bal-2000 where Account_id=acc;
        select 'Transaction Succeeded';
    ELSE
        select 'Not enough Balance';
    END IF;
END
```

Output:

```
MariaDB [Assignment_8]> call Ques_2('AC004');
+--------------------+
| Not enough Balance |
+--------------------+
| Not enough Balance |
+--------------------+
1 row in set (0.001 sec)

Query OK, 1 row affected (0.001 sec)

MariaDB [Assignment_8]> call Ques_2('AC002');
+-----------------------+
| Transaction Succeeded |
+-----------------------+
| Transaction Succeeded |
+-----------------------+
1 row in set (0.014 sec)

Query OK, 2 rows affected (0.014 sec)

MariaDB [Assignment_8]> select * from Accounts;
+------------+------+---------+
| Account_Id | Name | Balance |
+------------+------+---------+
| AC001      | A    |    5000 |
| AC002      | B    |    8000 |
| AC003      | D    |    5000 |
| AC004      | E    |    2000 |
| AC005      | C    |     250 |
+------------+------+---------+
5 rows in set (0.000 sec)
```