**MySQL Programs(Functions and Flow control)**

1. Write function that accepts a positive number from a user and displays its factorial on the screen.

delimiter $$

CREATE FUNCTION FACT(X INT) RETURNS INT4

BEGIN

DECLARE FACT INT;

DECLARE I INT;

SET FACT=1 , I=1;

L1:LOOP

IF X>0 THEN

SET FACT=FACT\*I;

SET I=I+1;

SET X=X-1;

ITERATE L1;

ELSE

LEAVE L1;

END IF;

END LOOP L1;

RETURN FACT;

END$$

SELECT FACT(3) as factorial;

1. Write a function that accepts a positive number ‘n’ and displays whether that number is a Prime number or not.

delimiter $$

CREATE FUNCTION PRIME(X INT) RETURNS VARCHAR(10)

BEGIN

DECLARE M ,I INT;

SET I=2;

SET M=X/2;

IF X=0 || X=1 THEN

RETURN 'NOT PRIME';

ELSE

L1: LOOP

WHILE I<=M DO

IF X%2=0 THEN

RETURN 'NOT PRIME';

LEAVE L1;

ELSE

SET I=I+1;

ITERATE L1;

END IF;

END WHILE;

RETURN 'PRIME';

END LOOP L1;

END IF;

END$$

SELECT PRIME(2);

1. Write a function to Convert an inputed number of inches into yards, feet, and inches. For example, 124 inches equals 3 yards, 1 foot, and 4 inches.

delimiter $$

CREATE FUNCTION CON(VAR INTEGER) RETURNS VARCHAR(30)

BEGIN

DECLARE A,B,C INTEGER;

SET A = VAR/36;

SET VAR = VAR%36;

SET B = VAR/12;

SET VAR = VAR%12;

SET C = VAR;

RETURN concat(A ," yards ",B," foot ",C," inches ");

END$$

SELECT CON(124);

1. Write a function to update salary of the employees of specified dept by 10%. Take dept no as parameter.

delimiter $$

CREATE FUNCTION SAL(DEPTID INT3) RETURNS VARCHAR(50)

BEGIN

UPDATE EMP SET SAL=(SAL+(SAL\*0.1)) WHERE DEPTNO=DEPTID;

RETURN 'UPDATED';

END$$

SELECT SAL(10);

1. Create a function named USER\_ANNUAL\_COMP that has a parameter p\_eno for passing on the values of an employee number of the employee and p\_comp for passing the compansation. In the function calculates and returns the annual compensation of the employee by using the following formula.

annual\_compensation = (p\_sal+p\_comm)\*12

If the salary or commission value is NULL then zero should be substituted for it. Give a call to USER\_ANNUAL\_COMP.

delimiter $$

CREATE FUNCTION USER\_ANNUAL\_COMP (P\_ENO INT4,P\_COMP INT4) RETURNS INT8

BEGIN

DECLARE ANNUAL\_COM, SALR INT8;

SET SALR=(SELECT (SAL) FROM EMP WHERE EMPNO=P\_ENO);

SET ANNUAL\_COM = (SALR + P\_COMP)\*12;

RETURN ANNUAL\_COM;

END$$

SELECT SAL FROM EMP WHERE EMPNO=1004;

SELECT USER\_ANNUAL\_COMP(1004,200);

1. Create a procedure called USER\_QUERY\_EMP that accepts three parameters. Parameter p\_myeno is of IN parameter mode which provides the empno value. The other two parameters p\_myjob and p\_mysal are of OUT mode. The procedure retrieves the salary and job of an employee with the provided employee number and assigns those to the two OUT parameters respectively. The procedure should raise the error if the empno does not exist in the EMP table by displaying an appropriate message

delimiter $$

CREATE PROCEDURE USER\_QUERY\_EMP (IN P\_ENO INT, OUT P\_JOB VARCHAR(10), OUT P\_SAL INT3 )

BEGIN

DECLARE NO INT;

SET NO = (SELECT COUNT(\*) FROM EMP WHERE EMPNO=P\_ENO);

IF NO=0 THEN

SELECT 'employee not exists';

SET P\_JOB='';

SET P\_SAL=0;

ELSE

SELECT SAL,JOB INTO P\_SAL,P\_JOB FROM EMP WHERE EMPNO=P\_ENO;

END IF;

END$$

CALL USER\_QUERY\_EMP(1004,@JOB,@SAL);

1. Create a procedure to print the inputted string in reverse order. If inputted string is null display an appropriate message

delimiter $$

CREATE PROCEDURE REV(INOUT STR VARCHAR(50))

BEGIN

IF isnull(STR) THEN

SET STR='STRING IS NULL';

ELSE IF(STR='') THEN

SET STR='STRING IS NULL';

ELSE

SET STR=(SELECT REVERSE(STR));

END IF;

END IF;

END $$

SET @STR=null;

CALL REV(@REV);

1. Create a procedure named ‘tabledetails’ which gives all the details of a particular table stored in database.

delimiter $$

CREATE PROCEDURE tabledetails()

BEGIN

SHOW TABLES;

END $$

CALL tabledetails;