1. Create and call MYSQL Procedure to find Factorial of a number.

```
Delimiter //
CREATE PROCEDURE fact(IN x INT, OUT result INT)
BEGIN
DECLARE i INT;
SET i = 1;
SET result = 1;
WHILE i <= x DO
SET result = result * i;
SET i = i + 1;
END WHILE;
END//
Delimiter ;

SET @Value =4;

CALL fact(@Value, @Factorial);

SELECT @Value, @Factorial;
```

```
@Value  @Factorial
4       24
```

2. Create and call MYSQL procedure named increment_salary() to update salary of employees in employee table.

```
CREATE TABLE employees(id INTEGER, name varchar(100), salary INTEGER);

insert into employees VALUES(1, 'aa', 30000);

insert into employees VALUES(2, 'ab', 20000);

insert into employees VALUES(3, 'an', 32000);

insert into employees VALUES(4, 'ai', 10000);

insert into employees VALUES(5, 'al', 13000);

insert into employees VALUES(6, 'af', 38000);

insert into employees VALUES(7, 'ann', 5000);

SELECT * FROM employees;

DELIMITER $$

CREATE PROCEDURE increment_salary(

        IN emp_number INT,

        IN percent INT)
```

```
BEGIN

        UPDATE employees SET salary = salary + (salary*percent)/100 WHERE id = emp_number;

END$$

DELIMITER ;

SET @id = 7;

SET @percent = 10;

CALL increment_salary(@id, @percent);

SELECT * from employees;
```

id	name	salary
1	aa	30000
2	ab	20000
3	an	32000
4	ai	10000
5	al	13000
6	af	38000
7	ann	5000

id	name	salary
1	aa	30000
2	ab	20000
3	an	32000
4	ai	10000
5	al	13000
6	af	38000
7	ann	5500

3. Create and call MYSQL Function to find Fibonacci numbers till n numbers.

```
DELIMITER $$

CREATE FUNCTION fibo(n INT)

RETURNS

        VARCHAR(100)

DETERMINISTIC

BEGIN

  DECLARE first_val INT DEFAULT 0;

  DECLARE second_val INT DEFAULT 1;

  DECLARE temp INT;

  DECLARE i INT DEFAULT 2;

  DECLARE output VARCHAR(100) DEFAULT '';

  SET output = CONCAT(output, first_val, ',' , second_val, ',');

  WHILE i < n DO
```

```
        SET temp = first_val + second_val;

        SET first_val = second_val;

        SET second_val = temp;

        SET output = CONCAT(output, temp, ',');

        SET i = i + 1;

    end WHILE;

    RETURN output;

END$$

DELIMITER ;


SET @fibo_list = fibo(10);

SELECT @fibo_list;
```

```
@fibo_list
0,1,1,2,3,5,8,13,21,34,
```

4. **Create and call MYSQL Function to calculate the number of customers in "Customer" table whose salary is greater than 40,000.**

```
CREATE TABLE employees(id INTEGER, name varchar(100), salary INTEGER);

insert into employees VALUES(1, 'aa', 30000);

insert into employees VALUES(2, 'ab', 20000);

insert into employees VALUES(3, 'an', 32000);

insert into employees VALUES(4, 'ai', 10000);

insert into employees VALUES(5, 'al', 13000);

insert into employees VALUES(6, 'af', 38000);

insert into employees VALUES(7, 'ann', 5000);

SELECT * FROM employees;

DELIMITER $$
```

```sql
CREATE FUNCTION Average_salary_Employee()

RETURNS INT

DETERMINISTIC

BEGIN

    DECLARE countVal INT DEFAULT 0;

    SELECT count(*) INTO countVal FROM employees WHERE salary >20000;

    RETURN countVal;

END$$

DELIMITER ;


SET @num_employee = Average_salary_Employee();

SELECT @num_employee;
```

```
@num_employee
3
```