**MySQL**

**Exercise 4**

1. The CUSTOMER table of a state electricity board consists of the following fields:-

Meter Number Varchar 4

Meter Type Char 1

Previous Reading Int 5

Current Reading Int 5

Customer Type Char 1

Last Bill payment Char 1 (values could be ‘Y’ or ‘N’)

There are two types of meters viz. 3- phase or 1-phase coded as ‘T’ or ‘S’ respectively. There are 4 types of customers viz. Agricultural Industrial, Commercial and Residential with codes ‘A’ , ‘I’, ‘C’ and ‘R’ respectively.

Formulae:-

Units used = Current Reading – Previous Reading Rate =Rs.1/ 1.25/ 1.50/ 1.30 for A/I/C/R respectively.

Amount = rate\*units used

Surcharge = 5% for single phase

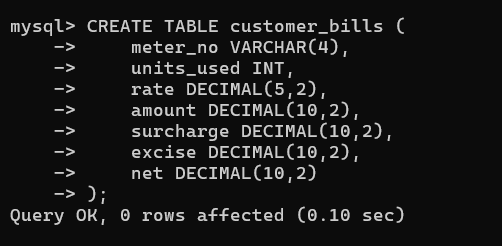
10% for 3 phase

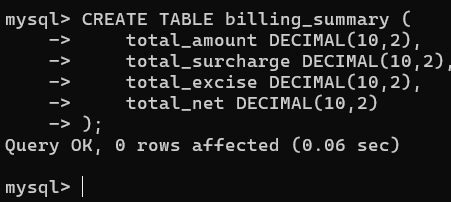
Excise = 30% of (amount +Surcharge)

Net = Amount +Surcharge + Excise

Write a block to calculate the bill for each customer. The program should insert the Meter no., Units used, Rate, Amount, Surcharge, Excise duty and Net for each customer into some other suitable table. Also, at the end, it should insert the total Amount, Surcharge, Excise and Net into some other table.

ANS:







mysql> CREATE PROCEDURE CalculateBills()

-> BEGIN

-> DECLARE done INT DEFAULT 0;

-> DECLARE v\_meter\_no VARCHAR(4);

-> DECLARE v\_meter\_type CHAR(1);

-> DECLARE v\_prev\_reading INT;

-> DECLARE v\_curr\_reading INT;

-> DECLARE v\_cust\_type CHAR(1);

-> DECLARE v\_last\_payment CHAR(1);

-> DECLARE v\_units INT;

-> DECLARE v\_rate DECIMAL(5,2);

-> DECLARE v\_amount DECIMAL(10,2);

-> DECLARE v\_surcharge DECIMAL(10,2);

-> DECLARE v\_excise DECIMAL(10,2);

-> DECLARE v\_net DECIMAL(10,2);

-> DECLARE cur CURSOR FOR

-> SELECT meter\_no, meter\_type, previous\_reading, current\_reading, customer\_type, last\_bill\_payment

-> FROM customer;

-> DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;

->

-> -- Initialize totals

-> SET @total\_amount = 0;

-> SET @total\_surcharge = 0;

-> SET @total\_excise = 0;

-> SET @total\_net = 0;

->

-> OPEN cur;

->

-> read\_loop: LOOP

-> FETCH cur INTO v\_meter\_no, v\_meter\_type, v\_prev\_reading, v\_curr\_reading, v\_cust\_type, v\_last\_payment;

-> IF done THEN

-> LEAVE read\_loop;

-> END IF;

->

-> -- Calculate units used

-> SET v\_units = v\_curr\_reading - v\_prev\_reading;

->

-> -- Determine rate based on customer type

-> CASE v\_cust\_type

-> WHEN 'A' THEN SET v\_rate = 1.00;

-> WHEN 'I' THEN SET v\_rate = 1.25;

-> WHEN 'C' THEN SET v\_rate = 1.50;

-> WHEN 'R' THEN SET v\_rate = 1.30;

-> ELSE SET v\_rate = 0;

-> END CASE;

->

-> -- Calculate amount

-> SET v\_amount = v\_rate \* v\_units;

->

-> -- Calculate surcharge

-> IF v\_meter\_type = 'S' THEN

-> SET v\_surcharge = v\_amount \* 0.05;

-> ELSE

-> SET v\_surcharge = v\_amount \* 0.10;

-> END IF;

->

-> -- Calculate excise duty

-> SET v\_excise = (v\_amount + v\_surcharge) \* 0.30;

->

-> -- Calculate net amount

-> SET v\_net = v\_amount + v\_surcharge + v\_excise;

->

-> -- Insert individual bill details

-> INSERT INTO customer\_bills (meter\_no, units\_used, rate, amount, surcharge, excise, net)

-> VALUES (v\_meter\_no, v\_units, v\_rate, v\_amount, v\_surcharge, v\_excise, v\_net);

->

-> -- Update totals

-> SET @total\_amount = @total\_amount + v\_amount;

-> SET @total\_surcharge = @total\_surcharge + v\_surcharge;

-> SET @total\_excise = @total\_excise + v\_excise;

-> SET @total\_net = @total\_net + v\_net;

-> END LOOP;

->

-> CLOSE cur;

->

-> -- Insert billing summary

-> INSERT INTO billing\_summary (total\_amount, total\_surcharge, total\_excise, total\_net)

-> VALUES (@total\_amount, @total\_surcharge, @total\_excise, @total\_net);

-> END $$

Query OK, 0 rows affected (0.01 sec)

