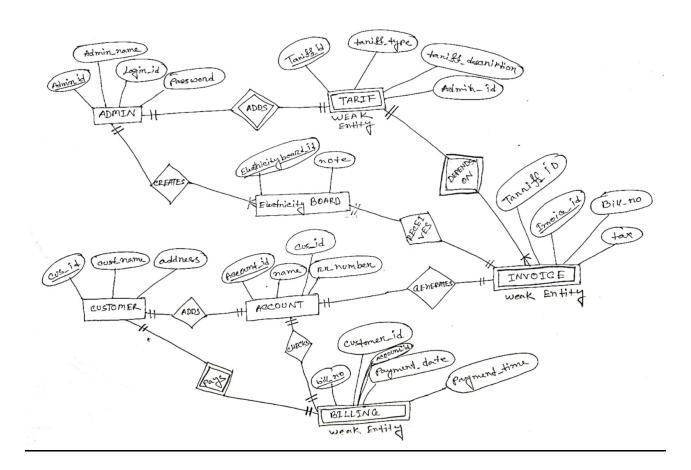
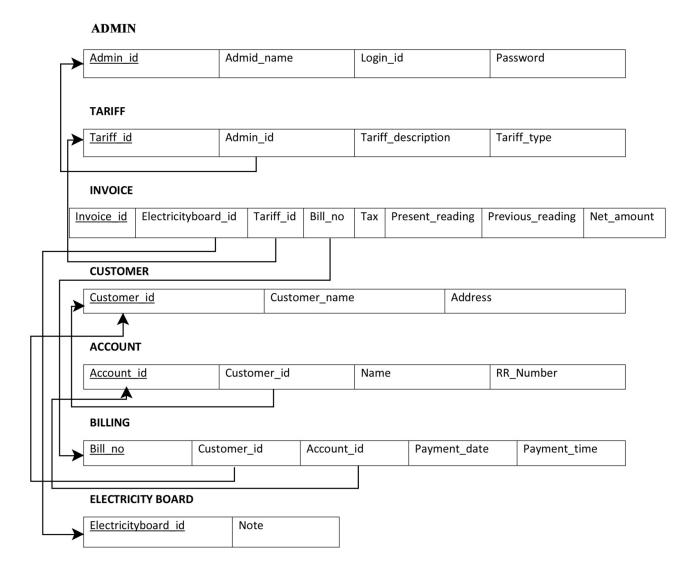
Electric Bill System Database

EER DIAGRAM



SCHEMA



SQL statements

```
create database electricity_bill_system;
use electricity bill system;
```

ADMIN

```
CREATE TABLE admin (
Admin_id varchar(15) NOT NULL,
Admin_name varchar(15) NOT NULL,
Login_id varchar(15) NOT NULL,
Password varchar(50) NOT NULL,
PRIMARY KEY (Admin_id)
);
```

```
MariaDB [electricity_bill_system]> CREATE TABLE admin (
   -> Admin_id varchar(15) NOT NULL,
   -> Admin_name varchar(15) NOT NULL,
   -> Login_id varchar(15) NOT NULL,
   -> Password varchar(50) NOT NULL,
   -> PRIMARY KEY (Admin_id)
   -> );
Query OK, 0 rows affected (0.043 sec)
MariaDB [electricity_bill_system]> describe admin;
 Field
                           | Null | Key | Default | Extra
              Type
              varchar(15)
 Admin id
                             NO
                                    PRI
                                          NULL
 Admin_name
              varchar(15)
                             NO
                                          NULL
 Login_id
              varchar(15)
                             NO
                                          NULL
 Password
              varchar(50)
                            NO
                                          NULL
 rows in set (0.018 sec)
```

INSERT DATA INTO ADMIN:

```
insert into admin(Admin_id, Admin_name, Login_id, Password) values

('EBS-201101', 'Jones', 'Jones201101', '01Jones201101'),

('EBS-201102', 'Smith', 'Smith201102', '02Smith201102'),

('EBS-201103', 'Hayes', 'Hayes201103', '03Hayes201103'),

('EBS-201104', 'Curry', 'Curry201104', '04Curry201104'),

('EBS-201105', 'Lindsay', 'Lindsay201105', '05Lindsay201105');

select * from admin;
```

Format:

insert into admin(Admin_id, Admin_name, Login_id, Password)
values

('Insert admin ID here', 'Insert admin name here', 'Insert Admin login ID here', 'Insert admin password here');

```
MariaDB [electricity bill system]> select * from admin;
 Admin id
              Admin_name | Login_id
                                             Password
 EBS-201101
               Jones
                            Jones 201101
                                             01Jones201101
              Smith
                            Smith201102
                                             02Smith201102
 EBS-201102
 EBS-201103
                            Hayes201103
                                             03Hayes201103
              Hayes
 EBS-201104
              Curry
                            Curry201104
                                             04Curry201104
 EBS-201105
              Lindsay
                            Lindsay201105
                                             05Lindsay201105
```

TARIFF

```
CREATE TABLE tariff (
Tariff_id varchar(15) NOT NULL,
Admin_id varchar(15) NOT NULL,
Tariff_description varchar(255),
Tariff_type varchar(15),
PRIMARY KEY (Tariff_id),
FOREIGN KEY (Admin_id) REFERENCES admin(Admin_id)
);
```

```
MariaDB [electricity_bill_system]> CREATE TABLE tariff (
    -> Tariff_id varchar(15) NOT NULL,
-> Admin_id varchar(15) NOT NULL,
    -> Tariff_description varchar(255),
    -> Tariff_type varchar(15),
    -> PRIMARY KEY (Tariff_id),
    -> FOREIGN KEY (Admin_id) REFERENCES admin(Admin_id)
Query OK, 0 rows affected (0.039 sec)
MariaDB [electricity_bill_system]> describe tariff;
 Field
                        Type
                                       | Null | Key | Default | Extra |
 Tariff id
                        varchar(15)
                                        NO
                                                       NULL
 Admin_id
                        varchar(15)
                                        NO
                                                MUL
                                                       NULL
 Tariff_description |
                        varchar(255)
                                                       NULL
 Tariff_type
                        varchar(15)
                                                      NULL
 rows in set (0.018 sec)
```

INSERT DATA INTO TARIFF:

```
insert into tariff(Tariff_id, Admin_id, Tariff_description, Tariff_type) values

('TID-01', 'EBS-201101', '3.75 tk per unit', 'Low (0-150 unit)'),

('TID-02', 'EBS-201102', '4.19 tk per unit', 'Medium (151-300 unit)'),

('TID-03', 'EBS-201104', '6.34 tk per unit', 'High (301-600 unit)'),

('TID-04', 'EBS-201105', '12.50 tk per unit', 'Platinum(600+ unit)');

select * from tariff;
```

FORMAT:

insert into tariff(Tariff_id, Admin_id, Tariff_description, Tariff_type)
values

('Insert Tariff id here', 'Insert Admin ID here', 'Insert Tariff description fere', 'Insert Tariff type here');

```
MariaDB [electricity bill system]> select * from tariff;
 Tariff_id | Admin_id
                          Tariff_description | Tariff_type
 TID-01
             EBS-201101
                          3.75 tk per unit
                                               Low (0-150 unit)
                                               Medium (151-300 unit)
 TID-02
             EBS-201102
                          4.19 tk per unit
                                               High (301-600 unit)
 TID-03
             EBS-201104
                        6.34 tk per unit
             EBS-201105
                        12.50 tk per unit
                                               Platinum(600+ unit)
```

INVOICE

```
CREATE TABLE invoice (
Invoice_id varchar(15) NOT NULL,
Electricity_board_id varchar(15) NOT NULL,
Tariff_id varchar(15) NOT NULL,
Bill_no varchar(15) NOT NULL,
Tax_taka FLOAT,
Present_reading_unit FLOAT,
Previous_reading_unit FLOAT,
Net_amount_taka FLOAT,
PRIMARY KEY (Invoice_id),
FOREIGN KEY (Electricity_board_id) REFERENCES
electricity_board(Electricity_board_id),
FOREIGN KEY (Tariff_id) REFERENCES tariff(Tariff_id),
FOREIGN KEY (Bill_no) REFERENCES billing(Bill_no)
);
```

```
MariaDB [electricity_bill_system]> describe invoice;
 Field
                                       | Null | Key | Default | Extra
                          Type
 Invoice_id
                          varchar(15)
                                         NO
                                                PRI
                                                      NULL
 Electricity_board_id
                          varchar(15)
                                         NO
                                                MUL
                                                      NULL
 Tariff_id
                          varchar(15)
                                         NO
                                                MUL
                                                      NULL
 Bill no
                          varchar(15)
                                         NO
                                                MUL
                                                      NULL
 Tax taka
                          float
                                         YES
                                                      NULL
 Present_reading_unit
                          float
                                         YES
                                                      NULL
                          float
 Previous reading unit
                                         YES
                                                       NULL
 Net amount taka
                          float
                                         YES
                                                      NULL
8 rows in set (0.030 sec)
MariaDB [electricity_bill_system]>
```

INSERT DATA INTO INVOICE:

```
insert into invoice(Invoice_id, Electricity_board_id, Tariff_id, Bill_no, Tax_taka, Present_reading_unit, Previous_reading_unit, Net_amount_taka)

values

('INV-001', 'EBID0001', 'TID-01', '201101400', '34', '367850', '367750', '409'),

('INV-002', 'EBID0002', 'TID-03', '201101401', '45', '427336', '427026', '2010.4'),

('INV-003', 'EBID0003', 'TID-02', '201202402', '40', '253912', '253650',
 '1137.78'),

('INV-004', 'EBID0004', 'TID-04', '201202403', '55', '361858', '361295',
 '3624.42'),

('INV-005', 'EBID0005', 'TID-01', '201903404', '34', '12305', '12200', '491.75'),

('INV-006', 'EBID0006', 'TID-03', '202004405', '45', '11606', '11300', '1985.04');

select * from invoice;
```

FORMAT:

insert into invoice(Invoice_id, Electricity_board_id, Tariff_id, Bill_no, Tax_taka, Present_reading_unit, Previous_reading_unit, Net_amount_taka) values

('Insert Invoice_id here', 'Insert Electricity_board_id here', 'Insert Tariff_id here', 'Insert Bill_no here', 'Insert Tax_taka here', 'Insert Present_reading_unit here', 'Insert Previous_reading_unit here', 'Insert Net_amount_taka here');

Invoice_id	Electricity_board_id	Tariff_id	Bill_no	Tax_taka	Present_reading_unit	Previous_reading_unit	Net_amount_taka
INV-001	EBID0001	TID-01	201101400	34	367850	367750	409
INV-002	EBID0002	TID-03	201101401	45	427336	427026	2010.4
INV-003	EBID0003	TID-02	201202402	40	253912	253650	1137.78
INV-004	EBID0004	TID-04	201202403	55	361858	361295	3624.42
INV-005	EBID0005	TID-01	201903404	34	12305	12200	491.75
INV-006	EBID0006	TID-03	202004405	45	11606	11300	1985.04

CUSTOMER

```
CREATE TABLE customer (
Customer_id varchar(15) NOT NULL,
Customer_name varchar(25) NOT NULL,
Address varchar(50),
PRIMARY KEY (Customer_id)
);
```

```
MariaDB [electricity_bill_system]> CREATE TABLE customer (
    -> Customer_id varchar(15) NOT NULL,
   -> Customer_name varchar(25) NOT NULL,
   -> Address varchar(50),
   -> PRIMARY KEY (Customer_id)
   -> );
Query OK, 0 rows affected (0.036 sec)
MariaDB [electricity_bill_system]> describe customer;
 Field
                Type
                              | Null | Key | Default | Extra
 Customer id
                | varchar(15) | NO
                                       PRI |
                                             NULL
                 varchar(25)
 Customer_name
                               NO
                                             NULL
 Address
                | varchar(50) | YES
                                             NULL
 rows in set (0.017 sec)
```

INSERT DATA INTO CUSTOMER:

```
insert into customer(Customer_id, Customer_name, Address)
values
('24682101', 'Niloy Sen', 'Banani'),
('24682102', 'Tarek', ' Uttara'),
('24682103', 'Sumsul Islam', 'Banani'),
('24682104', 'Nahidul Hoque', 'Gulshan-1'),
('24682105', 'Sanjita Roy', 'Gulshan-2'),
('24682106', 'Shariful Islam', 'Uttara');
select * from customer;
```

FORMAT:

```
insert into customer(Customer_id, Customer_name, Address) values
```

('Insert Customer_id here ', 'Insert Customer_name here', 'Insert Address here');

Output:

```
MariaDB [electricity bill system]> select * from customer;
 Customer_id | Customer_name
                                 Address
                Niloy Sen
                                 Banani
 24682101
 24682102
                Tarek
                                  Uttara
 24682103
                Sumsul Islam
                                 Banani
 24682104
                Nahidul Hoque
                                 Gulshan-1
 24682105
                Sanjita Roy
                                 Gulshan-2
 24682106
                Shariful Islam
                                 Uttara
```

ACCOUNT

```
CREATE TABLE account (
Account_id varchar(15) NOT NULL,
Customer_id varchar(15) NOT NULL,
Name varchar(25),
RR_number varchar(20),
PRIMARY KEY (Account_id),
FOREIGN KEY (Customer_id) REFERENCES customer(Customer_id)
);
```

```
MariaDB [electricity_bill_system]> CREATE TABLE account (
    -> Account id varchar(15) NOT NULL,
   -> Customer_id varchar(15) NOT NULL,
   -> Name varchar(25),
   -> RR_number varchar(20),
   -> PRIMARY KEY (Account_id),
   -> FOREIGN KEY (Customer_id) REFERENCES customer(Customer_id)
    -> );
Query OK, 0 rows affected (0.034 sec)
MariaDB [electricity_bill_system]> describe account;
 Field
              Type
                            | Null | Key | Default |
 Account id
               varchar(15)
                              NO
                                     PRI
                                           NULL
 Customer_id
                varchar(15)
                              NO
                                     MUL
                                           NULL
 Name
                varchar(25)
                                           NULL
                              YES
 RR number
               varchar(20)
                            YES
                                           NULL
 rows in set (0.018 sec)
```

INSERT DATA INTO ACCOUNT:

```
insert into account(Account_id, Customer_id, Name, RR_number) values

('201124682101', '24682101', 'Niloy Sen', 'BNN201'),

('201124682102', '24682102', 'Tarek', 'UTT101'),

('201224682103', '24682103', 'Sumsul Islam', 'BNN202'),

('201224682104', '24682104', 'Nahidul Hoque', 'GLN301'),

('201924682105', '24682105', 'Sanjita Roy', 'GLN401'),

('202024682106', '24682106', 'Shariful Islam', 'UTT102');

select * from account;
```

FORMAT:

insert into account(Account_id, Customer_id, Name, RR_number)
values

('Insert Account_id here', 'Insert Customer_id here', Insert Name here', 'Insert RR_number here');

```
MariaDB [electricity_bill_system]> select * from account;
                Customer id Name
 Account id
                                                RR number
                              Niloy Sen
 201124682101
                24682101
                                                BNN201
 201124682102
                24682102
                               Tarek
                                                UTT101
 201224682103
                24682103
                               Sumsul Islam
                                                BNN202
 201224682104
                24682104
                              Nahidul Hoque
                                                GLN301
                               Sanjita Roy
 201924682105
                24682105
                                                GLN401
                               Shariful Islam
 202024682106
                24682106
                                                UTT102
```

BILLING

```
CREATE TABLE billing (
Bill_no varchar(15) NOT NULL,
Customer_id varchar(15) NOT NULL,
Account_id varchar(15) NOT NULL,
Payment_date DATE,
Payment_time TIME,
PRIMARY KEY (Bill_no),
FOREIGN KEY (Customer_id) REFERENCES customer(Customer_id),
FOREIGN KEY (Account_id) REFERENCES account(Account_id)
);
```

```
MariaDB [electricity_bill_system]> CREATE TABLE billing (
    -> Bill_no varchar(15) NOT NULL,
    -> Customer id varchar(15) NOT NULL,
    -> Account_id varchar(15) NOT NULL,
    -> Payment_date DATE,
    -> Payment_time TIME,
    -> PRIMARY KEY (Bill no),
    -> FOREIGN KEY (Customer_id) REFERENCES customer(Customer_id),
    -> FOREIGN KEY (Account id) REFERENCES account(Account id)
    -> );
Query OK, 0 rows affected (0.044 sec)
MariaDB [electricity bill system]> describe billing;
 Field
                Type
                              | Null | Key | Default | Extra
 Bill no
                 varchar(15)
                               NO
                                      PRI
                                            NULL
 Customer id
                 varchar(15)
                               NO
                                      MUL
                                            NULL
 Account_id
                 varchar(15)
                               NO
                                      MUL
                                            NULL
                 date
 Payment_date
                               YES
                                            NULL
 Payment time | time
                               YES
                                            NULL
 rows in set (0.012 sec)
```

INSERT DATA INTO BILLING:

insert into billing(Bill_no, Customer_id, Account_id, Payment_date,
Payment_time)

values

```
('201101400', '24682101', '201124682101', '2021-12-09', '09:15:00'), ('201101401', '24682102', '201124682102', '2021-12-10', '11:25:00'), ('201202402', '24682103', '201224682103', '2021-12-12', '14:34:00'), ('201202403', '24682104', '201224682104', '2021-12-14', '13:45:00'), ('201903404', '24682105', '201924682105', '2021-12-25', '10:12:00'), ('202004405', '24682106', '202024682106', '2021-12-29', '15:30:00'); select * from billing;
```

FORMAT:

insert into billing(Bill_no, Customer_id, Account_id, Payment_date,
Payment time)

values

('Insert Bill_no here', 'Insert Customer_id here', 'Insert Account_id here', 'Insert Payment date here', 'Insert Payment time here');

```
MariaDB [electricity bill system]> select * from billing;
 Bill no
             Customer id
                           Account id
                                          Payment date
                                                         Payment time
 201101400
             24682101
                           201124682101
                                          2021-12-09
                                                         09:15:00
 201101401
             24682102
                           201124682102
                                          2021-12-10
                                                         11:25:00
 201202402
             24682103
                           201224682103
                                          2021-12-12
                                                         14:34:00
 201202403
             24682104
                           201224682104
                                          2021-12-14
                                                         13:45:00
 201903404
             24682105
                           201924682105
                                          2021-12-25
                                                         10:12:00
 202004405
           24682106
                           202024682106
                                          2021-12-29
                                                         15:30:00
```

ELECTRICITY BOARD

```
CREATE TABLE electricity_board (
Electricity_board_id varchar(15) NOT NULL,
Note varchar(50),
PRIMARY KEY (Electricity_board_id)
);
```

INSERT DATA INTO ELECTRICITY BOARD

```
insert into electricity_board(Electricity_board_id, Note)
values
('EBID0001', 'Residential Area'),
('EBID0002', 'Residential Area'),
('EBID0003', 'Residential Area'),
('EBID0004', 'Residential Area'),
('EBID0005', 'Residential Area'),
('EBID0006', 'Residential Area');
select * from electricity_board;
```

FORMAT:

```
insert into electricity_board(Electricity_board_id, Note)
values
```

('Insert Electricity_board_id here', 'Insert Note here');

UPDATE ADMIN INFORMATION

UPDATE admin

SET Admin_name = 'Type new name here',

Login_id = 'Type new Login_id here',

Password= 'Type new Password here'

WHERE Admin_id = 'Type the Admin id which data you want to change';

select * from admin;

UPDATE TARIFF INFORMATION

UPDATE tariff

SET Tariff_description = 'Type new descriptio here',

Tariff_type = 'Type new Tariff_type here'

WHERE Tariff_id = 'Type the Tariff_id which data you want to change';

select * from tariff;

UPDATE INVOICE INFORMATION

UPDATE invoice

SET Tax_taka = 'Type new Tax here',

Present_reading_unit = 'Type new present reading unit here'

Previos_reading_unit = 'Type new previous reading unit here'

WHERE Invoice_id = 'Type the invoice id which you want to change';

select * from invoice;

UPDATE CUSTOMER INFORMATION

UPDATE customer

SET Customer name = 'Type new name here',

Address = 'Type new adress here'

WHERE Customer_id= 'Type the Customer id which data you want to change';

select * from customer;

UPDATE ACCOUNT INFORMATION

UPDATE account

SET Name = 'Type new name here',

RR Number = 'Type new RR Number here'

WHERE Accunt id= 'Type the Account id which data you want to change';

select * from account;

UPDATE BILLING INFORMATION

UPDATE billing

SET Payment_date = 'Type new Payment_date here',

Payment_time = 'Type new Payment_time here'

WHERE Bill_no= 'Type the Bill_no which data you want to change';

select * from billing;

UPDATE ELECTRICITY BOARD INFORMATION

UPDATE electricity_board

SET Electricityboard id = 'Type new electricity board id here',

Note = 'Type new Note here'

WHERE Electricityboard_id = 'Type the Electricityboard_id which data you want to change';

select * from electricity_board;

DELETE ADMIN INFORMATION

Delete FROM admin

WHERE Admin_id = 'Type the admin id which data you want to delete'; select * from admin;

DELETE TARIFF INFORMATION

Delete FROM tariff

WHERE Tariff_id = 'Type the tariff id which data you want to delete'; select * from tariff;

DELETE INVOICE INFORMATION

Delete FROM invoice

WHERE Invoice_id = 'Type the invoice id which data you want to delete'; select * from invoice;

DELETE CUSTOMER INFORMATION

Delete FROM customer

WHERE Customer_id = 'Type the Customer id which data you want to delete'; select * from customer;

DELETE ACCOUNT INFORMATION

Delete FROM account

WHERE Account_id = 'Type the Account id which data you want to delete'; select * from account;

DELETE BILLING INFORMATION

Delete FROM billing

WHERE Bill_no = 'Type the Bill no which data you want to delete'; select * from billing;

DELETE ELECTRICITY BOARD INFORMATION

Delete FROM electricity board

WHERE Electricityboard_id = 'Type Electricityboard_id which data you want to delete';

select * from electricity_board;

1) Find the customer's name whose address is banani?

```
Select Customer_name
From Customer
Where address = "Banani";
```

Output:

2) Find the customer's id and customer's name whose payment time is 15:30:00?

```
SELECT Customer_name

FROM Customer C, billing B

WHERE C.Customer_id = B.Customer_id

AND Payment time = "15:30:00";
```

Output:

3) Find the admin name and password from the tariff Description?
SELECT Admin_name , Password
FROM ADMIN A , TARIFF T
WHERE A.Admin_id = T.Admin_id
AND Tariff_description ;

Output:

4) Find the names and addresses who have bill no 201202403 ?SELECT Customer_name ,AddressFROM Customer C, billing BWHERE C.Customer_id = B.Customer_id

OUTPUT:

AND Bill_no = "201202403";

```
MariaDB [electricity_bill_system]> SELECT Customer_name ,Address
-> FROM Customer C, billing B
-> WHERE C.Customer_id = B.Customer_id
-> AND Bill_no = "201202403";
+-----+
| Customer_name | Address |
+-----+
| Nahidul Hoque | Gulshan-1 |
+-----+
1 row in set (0.000 sec)
```

5) Find the bill_no who gives payment between 09-12-2021 to 14-12-2021?

Select Bill_no

From billing

Where Payment_date between "2021-12-09" and "2021-12-04";

```
MariaDB [electricity_bill_system]> Select Bill_no
-> From billing
-> Where Payment_date between "2021-12-09"and "2021-12-04";
Empty set (0.000 sec)
```

6) Find the customers name whose name ending is Islam? select customer_name from customer where customer_name like "%Islam%"

OUTPUT:

7) Find the Tariff id whose net amount is greater than 1137.78 TK?

SELECT Tariff_id

FROM INVOICE

WHERE Net_amount_taka > "1137.78"