Electric Bill System Database

Database Name :- project

1. *customer*

* *customer\_id (Primary Key)*
* *first\_name*
* *last\_name*
* *address*
* *phone\_number*
* *email*

1. *electric\_meter*

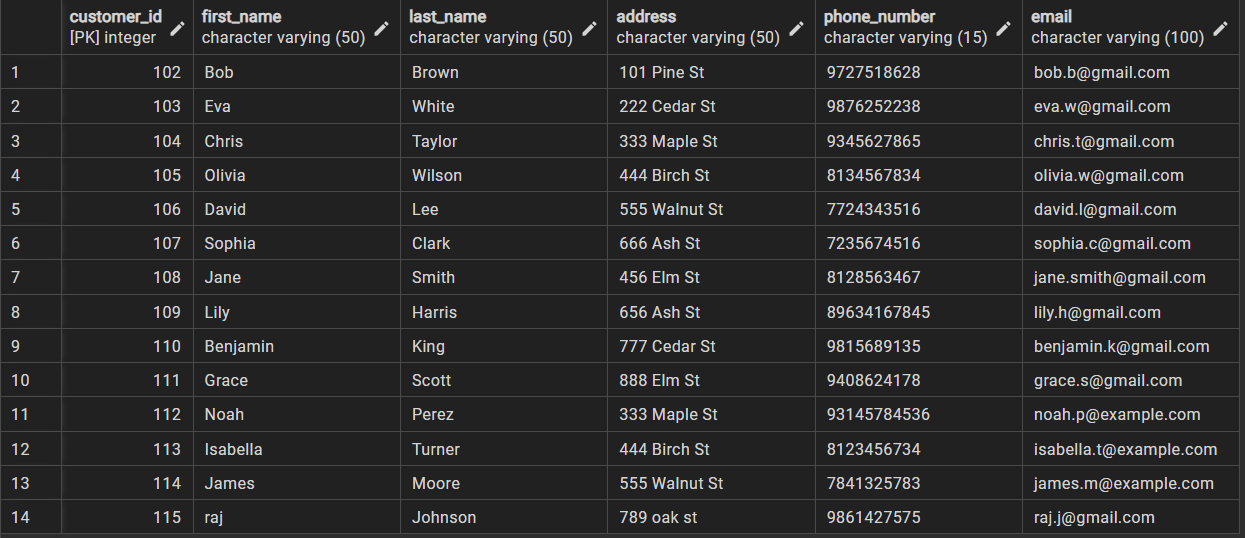
* *meter\_id (Primary Key)*
* *meter\_number*
* *location*
* *cust\_id(foreign key refernces customer(customer\_id)*
* *merer\_units*

1. *bills*

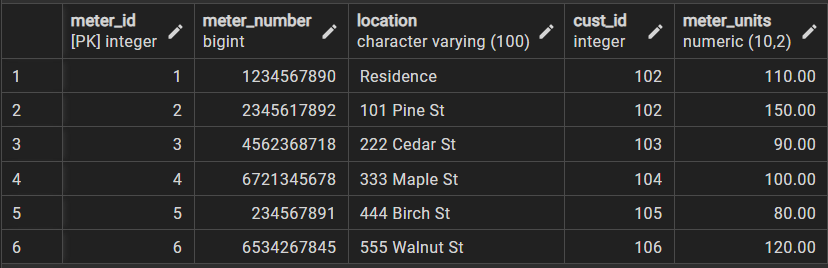
* *f\_name*
* *l\_name*
* *customer\_id (primaru key)*
* *meter\_id*
* *meter\_units*
* *bill\_date*
* *amount*
* *foreign key(customer\_id) refernces customers(customer\_id)*
* *foreign key(meter\_id) refernces electric\_meter(meter\_id)*

***Display table:***

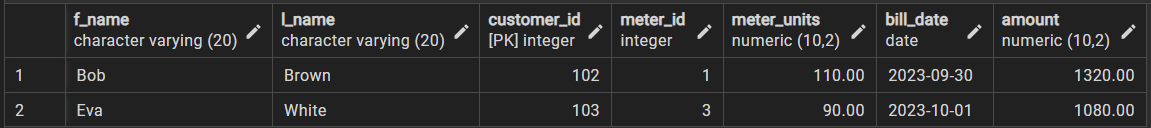
*Select \* from customers;*

**

*Select \* from electric\_meter;*

**

*Select \* from bills;*

**

**Plsql Block :-**

1.create a function to calculate the total amount of customer.

CREATE OR REPLACE FUNCTION calculate\_total\_amount(customer\_id IN INT)

RETURNS DECIMAL(10,2) as

$$

declare

total\_amount DECIMAL(10, 2);

BEGIN

SELECT SUM(amount) INTO total\_amount FROM bills

WHERE bills.customer\_id = calculate\_total\_amount.customer\_id;

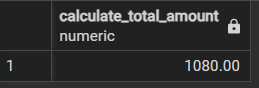
RETURN total\_amount;

END;

$$

language plpgsql;

select calculate\_total\_amount(103);



2. Create a function to insert bill detail into bills table.

create or replace function calculateBill(customer\_id int)

returns decimal(10,2)

as

$$

declare

total\_bill decimal(10,2);

b1 bills%rowtype;

c date:=current\_date;

d cursor for select customers.first\_name,customers.last\_name,customers.customer\_id,electric\_meters.meter\_id,electric\_meters.meter\_units from customers inner join electric\_meters on customers.customer\_id=electric\_meters.cust\_id where customers.customer\_id=calculateBill.customer\_id;

begin

open d;

loop

fetch d into b1;

exit when not found;

select (electric\_meters.meter\_units)\*(12) into total\_bill from electric\_meters where electric\_meters.cust\_id=calculateBill.customer\_id;

insert into bills values(b1.f\_name,b1.l\_name,b1.customer\_id,b1.meter\_id,b1.meter\_units,c,total\_bill);

end loop;

close d;

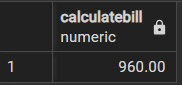
return total\_bill;

end;

$$

language plpgsql;

select calculateBill(105);

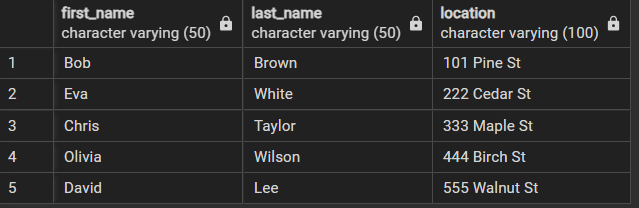


3. Query to retrieve customer details along with their electric meter location.

SELECT customers.first\_name, customers.last\_name, electric\_meters.location

FROM customers INNER JOIN electric\_meters ON customers.customer\_id =

electric\_meters.cust\_id;

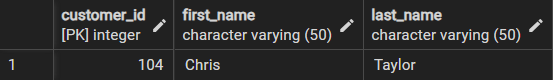


4. Query to retrieve the customer with the highest total bill amount:

SELECT customer\_id, first\_name, last\_name FROM customers WHERE

customer\_id = ( SELECT customer\_id FROM bills GROUP BY customer\_id

ORDER BY SUM(amount) DESC LIMIT 1);

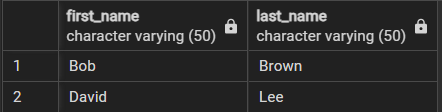


5. Query to find customers who have electric meters but no bills:

SELECT first\_name, last\_name FROM customers WHERE customer\_id IN

(SELECT cust\_id FROM electric\_meters) AND customer\_id NOT IN

(SELECT customer\_id FROM bills);



6. Query to find the total amount spent by each customer and display only customers who have spent less than 500 Rs. :

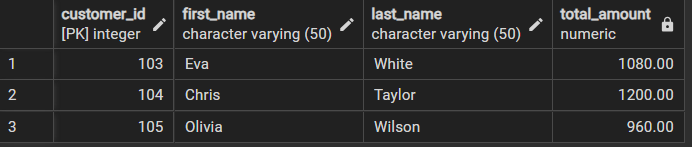
SELECT c.customer\_id, c.first\_name, c.last\_name, SUM(b.amount) AS

total\_amount FROM customers c

INNER JOIN bills b ON c.customer\_id = b.customer\_id

GROUP BY c.customer\_id, c.first\_name, c.last\_name

HAVING SUM(b.amount) > 500;



7. Query to find the total amount spent by customers with the last name 'Wilson' and having an address on '444 Birch St':

SELECT c.customer\_id, c.first\_name, c.last\_name, SUM(b.amount) AS

total\_amount FROM customers c

INNER JOIN bills b ON c.customer\_id = b.customer\_id

WHERE c.last\_name = 'Wilson' AND c.address = '444 Birch St'

GROUP BY c.customer\_id, c.first\_name, c.last\_name;

