Individual project

- **I created database name "Database " in pgAdmin 4.**
- **For that , right click on database > create database> enter name of database .**
- **Goal of this project : 1) to understand how to create database and queries.**

  2) for this Database , Goal is to find out most popular product among customer.

- **Brief information :**

  There are 4 table , Product , Customer , Store ,Sales

- **Product Table :**

  Product _id (primary key)

  Product _name

  Product _details

  Price

- **Customer Table :**

  customer_id (primarykey)

  First_name

  Last_name

  Product_id (Foreign key)

- **Store Table :**

  Store_id (product_id)

  Store_name

  Customer_id (Foreign key)

- **Sales Table :**

  Sales_id (Primary key) , Store_id (Foreign key)

  First_name

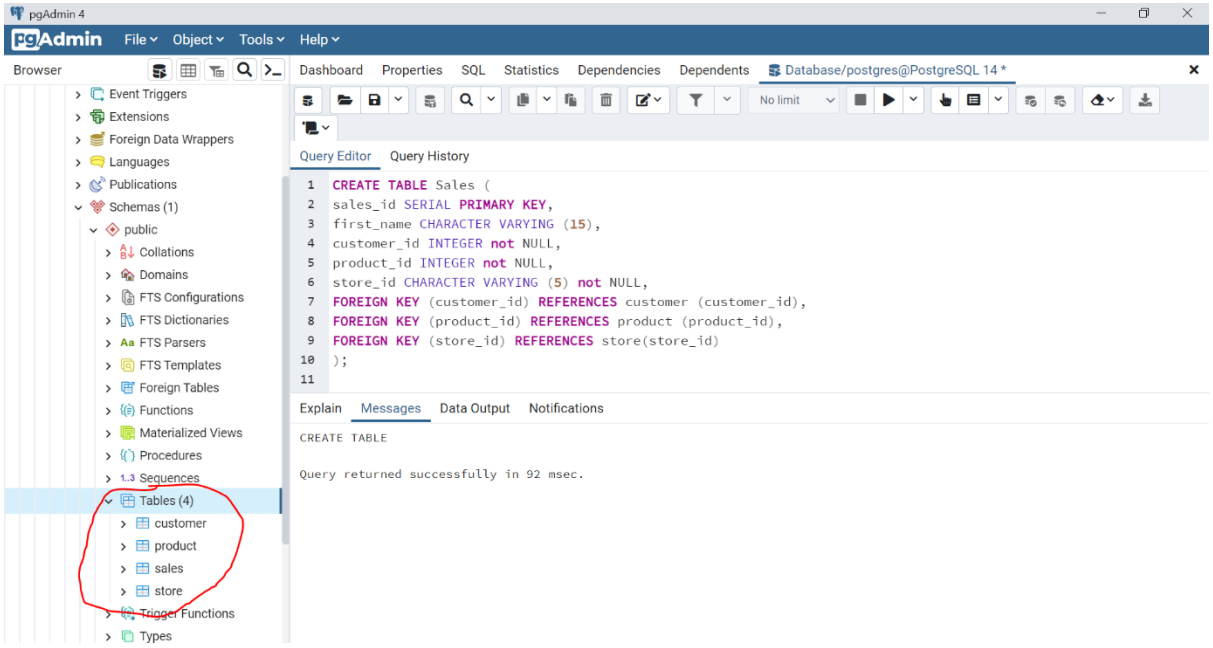
  Product_id (Foreign key)

  Customer_id (Foreign key)

Queries for create product, customer, store, sales table

```
CREATE TABLE Product (
product_id SERIAL PRIMARY KEY,
product_name CHARACTER VARYING (15),
product_details  CHARACTER VARYING (25)
);
CREATE TABLE Customer (
customer_id SERIAL PRIMARY KEY,
First_name CHARACTER VARYING (10),
Last_name CHARACTER VARYING (10),
product_id INTEGER not NULL,
FOREIGN KEY (product_id) REFERENCES product (product_id)
);
CREATE TABLE Store (
store_id CHARACTER VARYING (5) PRIMARY KEY,
store_name CHARACTER VARYING (15),
customer_id INTEGER not NULL,
FOREIGN KEY (customer_id) REFERENCES customer (customer_id)
);
CREATE TABLE Sales (
sales_id SERIAL PRIMARY KEY,
first_name CHARACTER VARYING (15),
customer_id INTEGER not NULL,
product_id INTEGER not NULL,
store_id CHARACTER VARYING (5) not NULL,
FOREIGN KEY (customer_id) REFERENCES customer (customer_id),
FOREIGN KEY (product_id) REFERENCES product (product_id),
FOREIGN KEY (store_id) REFERENCES store(store_id)
 );
```

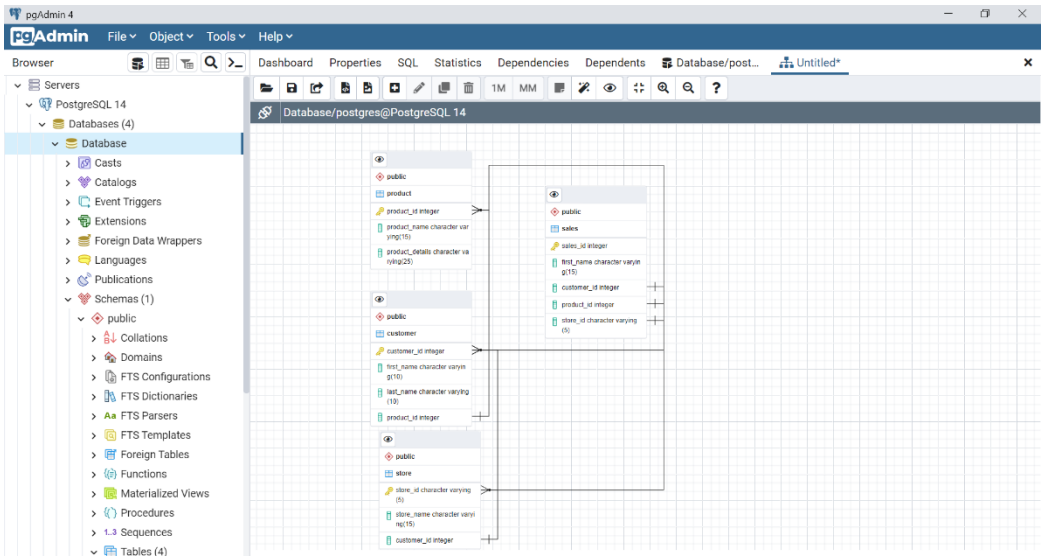
Successfully created 4 tables



Generate ERD/Schema

Select Database

Right click on it and select Generate ERD



Input Queries

```
/*data for product table*/
INSERT INTO product(product_id,product_name,product_details) values (1,'Coffee','Baverages');
INSERT INTO product(product_id,product_name,product_details) values (2,'Cream','Dairy');
INSERT INTO product(product_id,product_name,product_details) values (3,'Apple','Fruit');
INSERT INTO product(product_id,product_name,product_details) values (4,'Fish Fillet','Meat');
INSERT INTO product(product_id,product_name,product_details) values (5,'Tea','Baverages');
INSERT INTO product(product_id,product_name,product_details) values (6,'Onion','Vegetables');
INSERT INTO product(product_id,product_name,product_details) values (7,'Tissue','Paper product');
INSERT INTO product(product_id,product_name,product_details) values (8,'Chocolate chips','Bakery');
INSERT INTO product(product_id,product_name,product_details) values (9,'Stawbary','Fruit');
INSERT INTO product(product_id,product_name,product_details) values (10,'Chicken','Meat');


/*data for customer table*/
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (01,'Hiral','Patel',1);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (02,'Utsav','Patel',3);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (03,'Deep','Sindu',7);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (04,'Alex','Roy',3);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (05,'Sofi','Zadeja',5);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (06,'Ali','singla',2);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (07,'Jeny','Singh',6);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (08,'Tom','williams',4);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (09,'Wiliam','peter',1);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (010,'Kajal','Chada',8);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (11,'Kia','williams',9);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (12,'Vyomesh','peter',10);
INSERT INTO  customer(customer_id,First_name,Last_name,product_id) values (13,'Jemi','Chada',9);


/*data for store table*/
INSERT INTO  store(store_id,store_name,customer_id) values ('VM','Vmart',10);
INSERT INTO  store(store_id,store_name,customer_id) values ('DM','Dmart',06);
INSERT INTO  store(store_id,store_name,customer_id) values ('BI','Bigbajar',010);
INSERT INTO  store(store_id,store_name,customer_id) values ('WA','Walmart',04);
INSERT INTO  store(store_id,store_name,customer_id) values ('BG','Big Basket',03);
INSERT INTO  store(store_id,store_name,customer_id) values ('SE','Seven Eleven',01);
INSERT INTO  store(store_id,store_name,customer_id) values ('TR','Target',010);
INSERT INTO  store(store_id,store_name,customer_id) values ('RE','Reliance',09);
INSERT INTO  store(store_id,store_name,customer_id) values ('AB','24x7',05);
INSERT INTO  store(store_id,store_name,customer_id) values ('RL','Reliance Smart',07);
INSERT INTO  store(store_id,store_name,customer_id) values ('SP','Spencers',02);
INSERT INTO  store(store_id,store_name,customer_id) values ('TE','Tesco',08);
INSERT INTO  store(store_id,store_name,customer_id) values ('ZM','ZMALL',11);
INSERT INTO  store(store_id,store_name,customer_id) values ('GE','GMALL',12);
INSERT INTO  store(store_id,store_name,customer_id) values ('KI','KITCHEN',13);


/*data for sales table*/
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (101,1,1,'SE','Hiral');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (102,2,3,'SP','Utsav');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (103,3,7,'RL','Deep');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (104,4,3,'BG','Alex');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (105,5,5,'AB','Sofi');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (106,6,2,'DM','Ali');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (107,7,6,'RL','Jeny');
```

```
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (108,8,4,'TE','Tom');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (109,9,1,'RE','Wiliam');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (110,10,8,'BI','Kajal');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (111,11,9,'ZM','Kia');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (112,12,10,'GE','Vyomesh');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (113,13,9,'KI','Jemi');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (114,7,6,'RL','Jeny');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (115,6,2,'DM','Ali');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (116,5,5,'AB','Sofi');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (117,4,3,'WA','Alex');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (118,3,7,'BG','Deep');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (119,2,3,'SP','Utsav');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (120,1,1,'SE','Hiral');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (121,10,8,'TR','Kajal');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (122,11,9,'ZM','Kia');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (123,8,4,'SP','Tom');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (124,7,6,'RL','Jeny');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (125,6,2,'DM','Ali');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (126,1,8,'SE','Hiral');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (127,2,8,'SP','Utsav');
INSERT INTO  sales(sales_id,customer_id,product_id,store_id,First_name) values (128,3,8,'BG','Deep');
```

Create views

CREATE VIEW SALES_INFO AS

SELECT P.product_id , c.first_name , s.store_name , t.sales_id

FROM product p

LEFT JOIN customer c

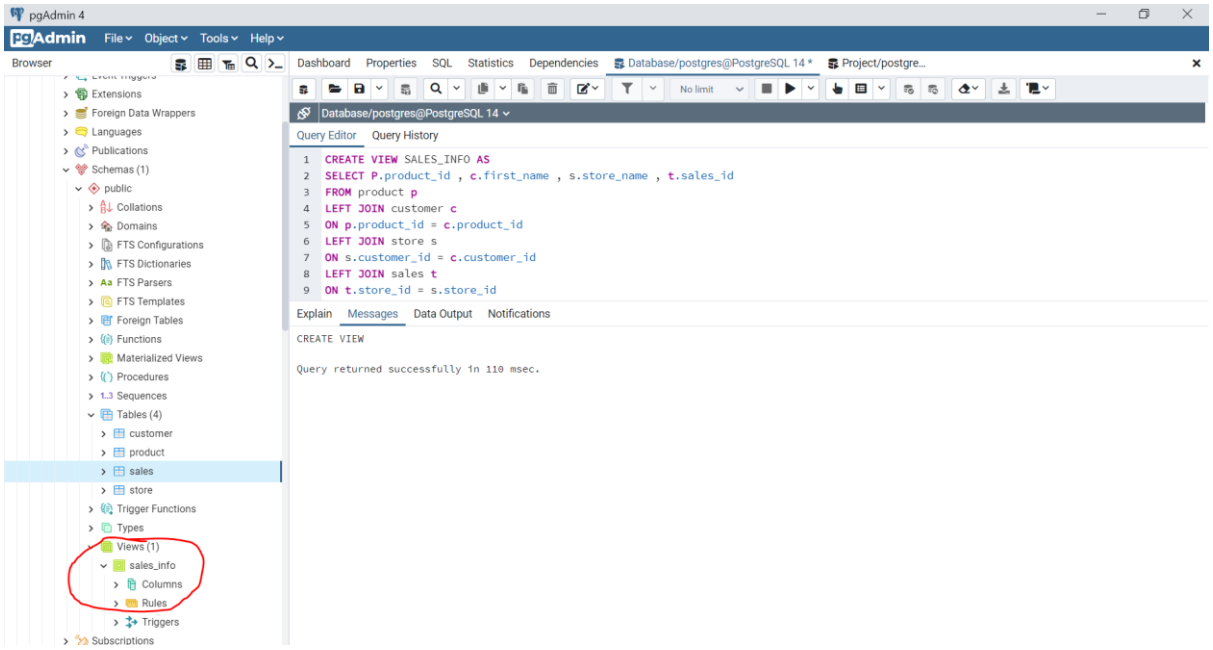
ON p.product_id = c.product_id

LEFT JOIN store s

ON s.customer_id = c.customer_id

LEFT JOIN sales t

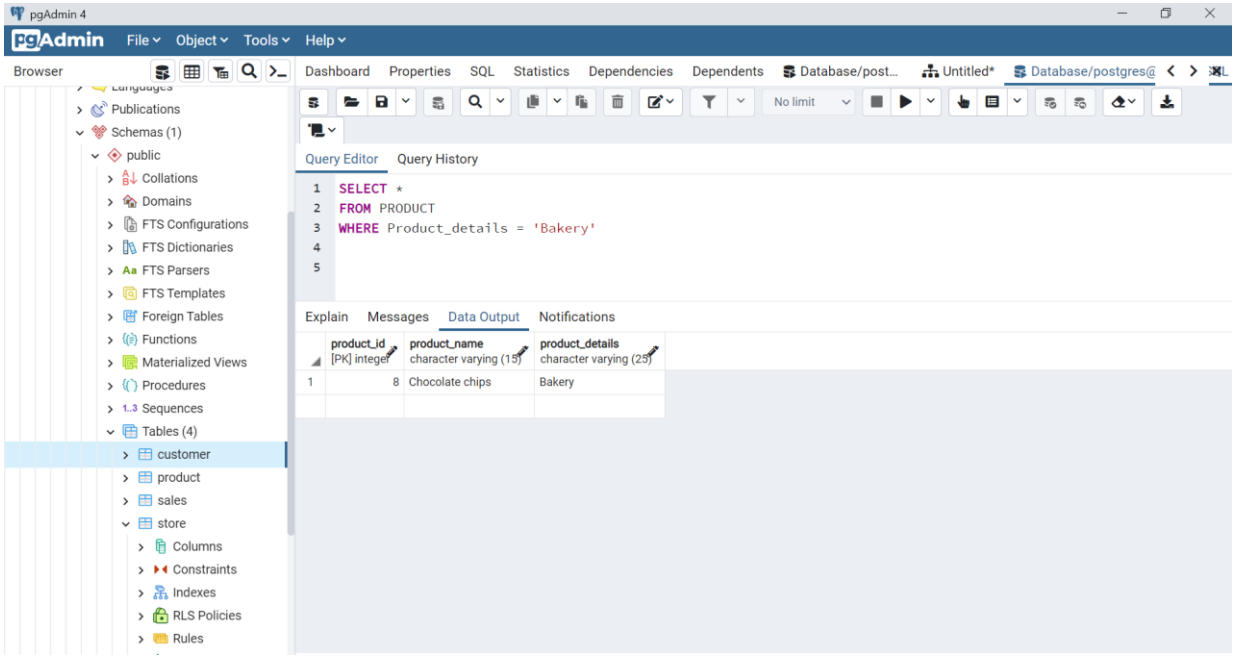
ON t.store_id = s.store_id



10 queries

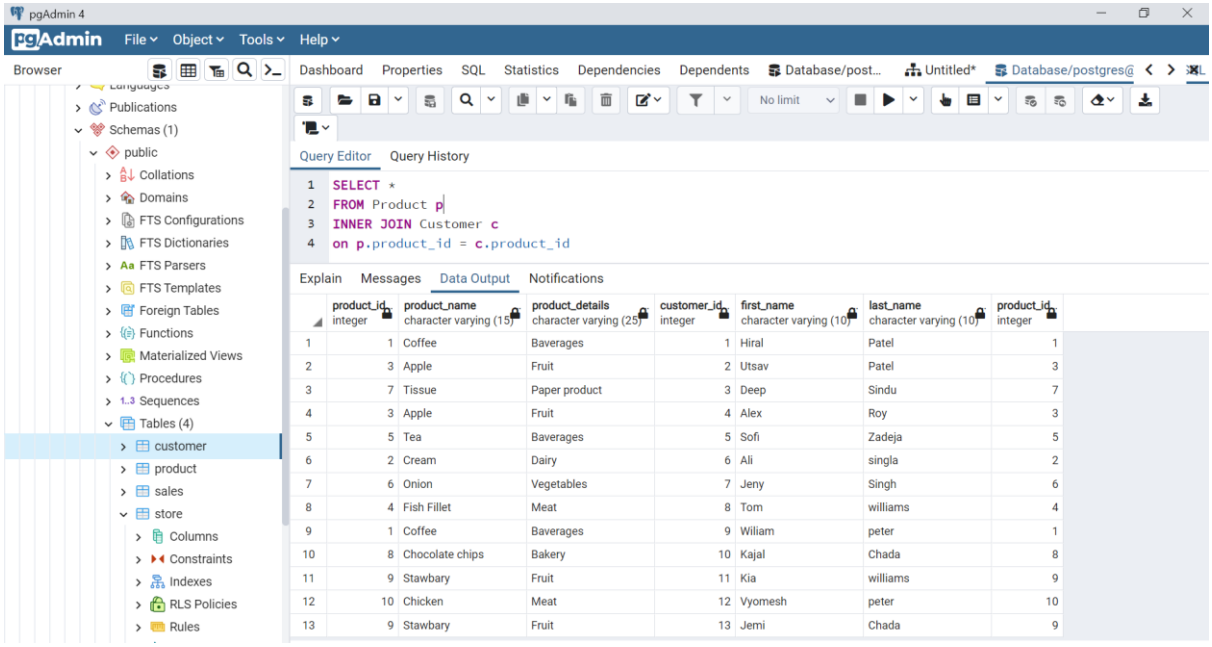
Select product from bakery department from product table

```
SELECT *
FROM PRODUCT
WHERE Product_details = 'Bakery'
```



Joint two table , product and customer

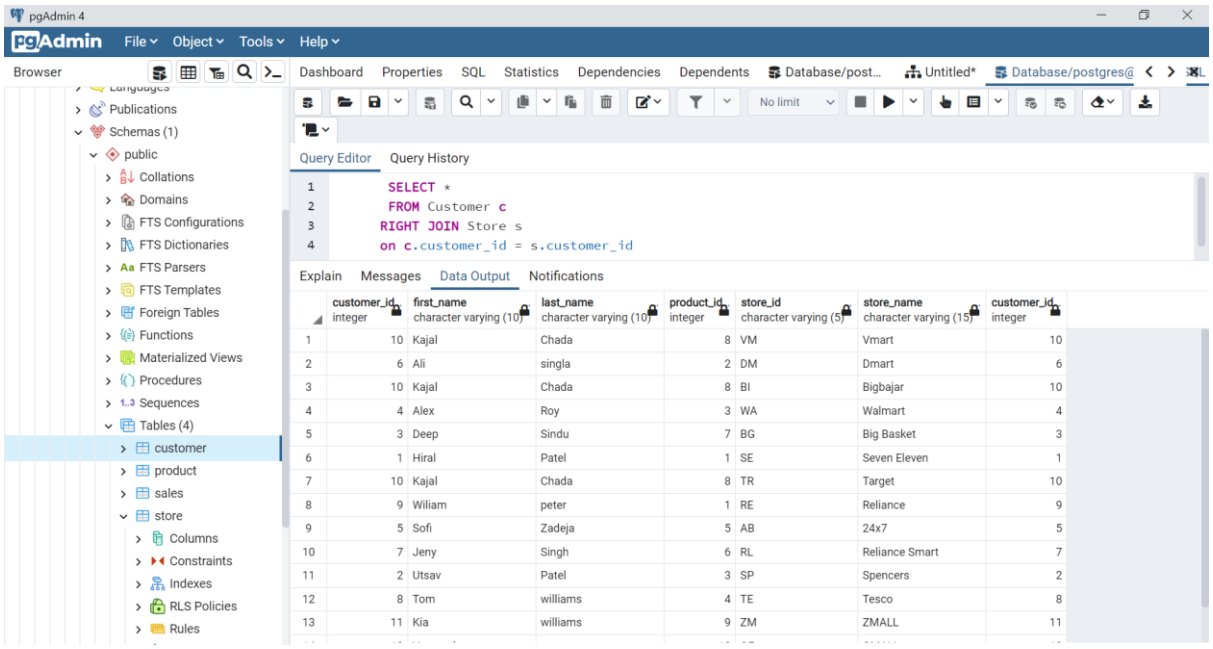
```
SELECT *
FROM Product p
INNER JOIN Customer c
on p.product_id = c.product_id
```



	product_id integer	product_name character varying (15)	product_details character varying (25)	customer_id integer	first_name character varying (10)	last_name character varying (10)	product_id integer
1	1	Coffee	Baverages	1	Hiral	Patel	1
2	3	Apple	Fruit	2	Utsav	Patel	3
3	7	Tissue	Paper product	3	Deep	Sindu	7
4	3	Apple	Fruit	4	Alex	Roy	3
5	5	Tea	Baverages	5	Sofi	Zadeja	5
6	2	Cream	Dairy	6	Ali	singla	2
7	6	Onion	Vegetables	7	Jeny	Singh	6
8	4	Fish Fillet	Meat	8	Tom	williams	4
9	1	Coffee	Baverages	9	Wiliam	peter	1
10	8	Chocolate chips	Bakery	10	Kajal	Chada	8
11	9	Stawbary	Fruit	11	Kia	williams	9
12	10	Chicken	Meat	12	Vyomesh	peter	10
13	9	Stawbary	Fruit	13	Jemi	Chada	9

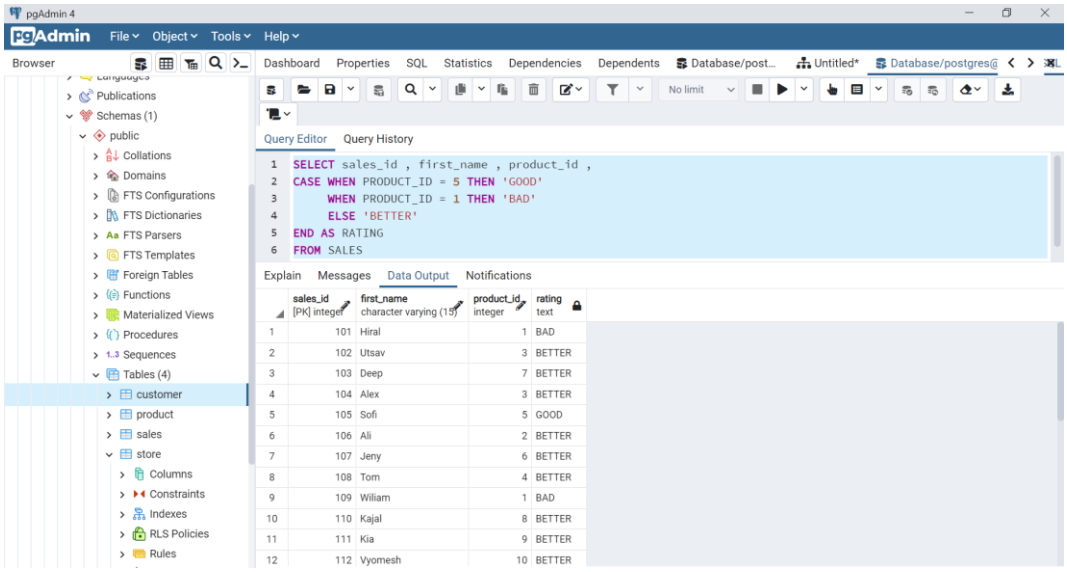
Right join

```
SELECT *
FROM Customer c
RIGHT JOIN Store s
on c.customer_id = s.customer_id
```



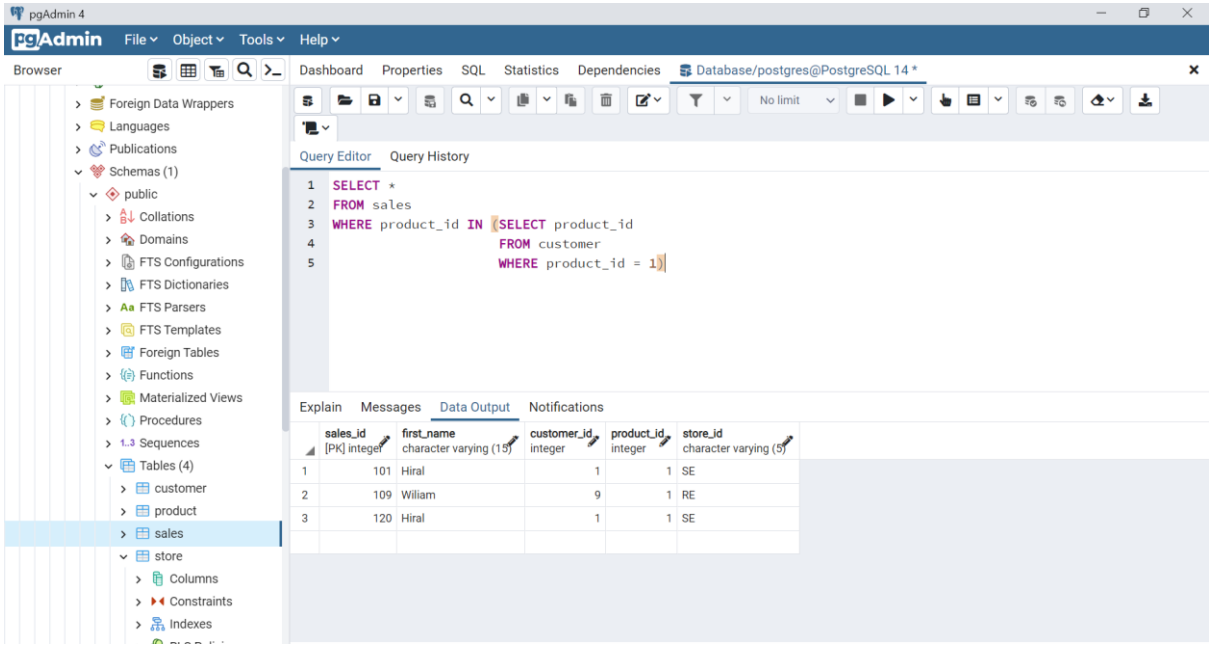
Add a new column to the result called ‘rating’ to group results into the following priority groups Good(product_id=5) ,Bad (product_id=1) , else(Better)

```
SELECT sales_id , first_name , product_id ,
CASE WHEN PRODUCT_ID = 5 THEN 'GOOD'
    WHEN PRODUCT_ID = 1 THEN 'BAD'
            ELSE 'BETTER'
END AS RATING
FROM SALES
```



Select a product whose product_id=1 from sales using subquery

```
SELECT *
FROM sales
WHERE product_id IN (SELECT product_id
                     FROM customer
                     WHERE product_id = 1)
```



Add a new colums name price_$ in product

ALTER TABLE product

ADD COLUMN price_$ INTEGER;

UPDATE product SET "price_$" = 12 WHERE "product_id" = 1;

UPDATE product SET "price_$" = 22 WHERE "product_id" = 2;

UPDATE product SET "price_$" = 11 WHERE "product_id" = 3;

UPDATE product SET "price_$" = 30 WHERE "product_id" = 4;

UPDATE product SET "price_$" = 12 WHERE "product_id" = 5;

UPDATE product SET "price_$" = 5 WHERE "product_id" = 6;

UPDATE product SET "price_$" = 32 WHERE "product_id" = 7;

UPDATE product SET "price_$" = 15 WHERE "product_id" = 8;

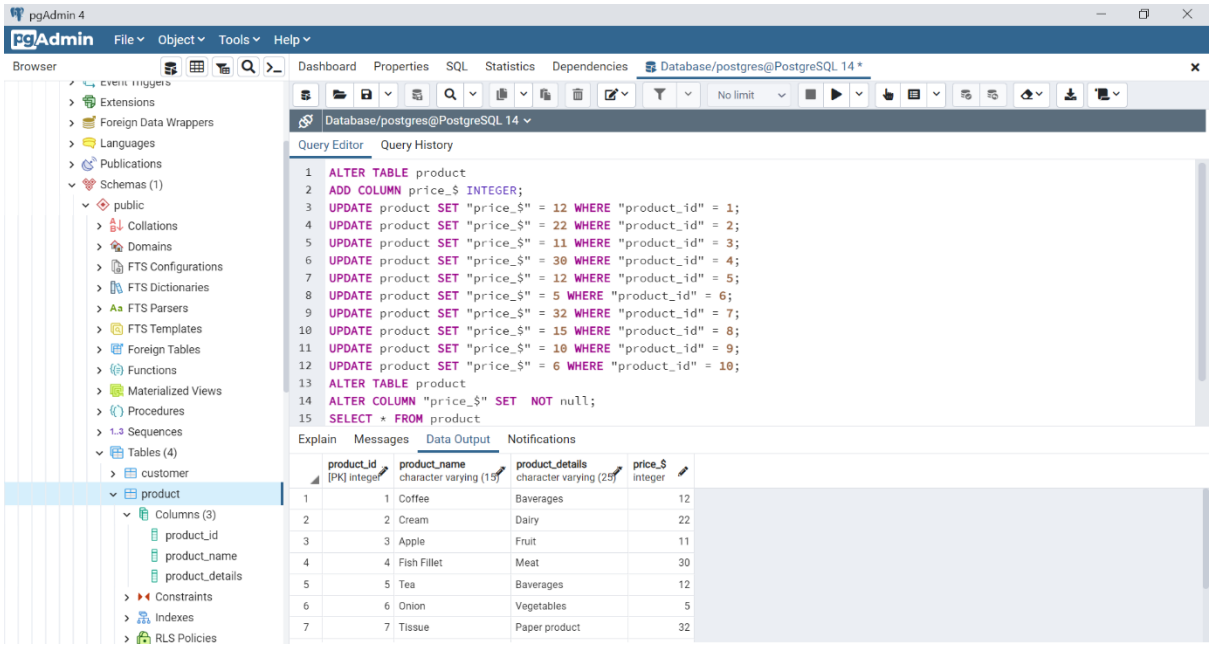
UPDATE product SET "price_$" = 10 WHERE "product_id" = 9;

UPDATE product SET "price_$" = 6 WHERE "product_id" = 10;

ALTER TABLE product

ALTER COLUMN "price_$" SET NOT null;

SELECT * FROM product



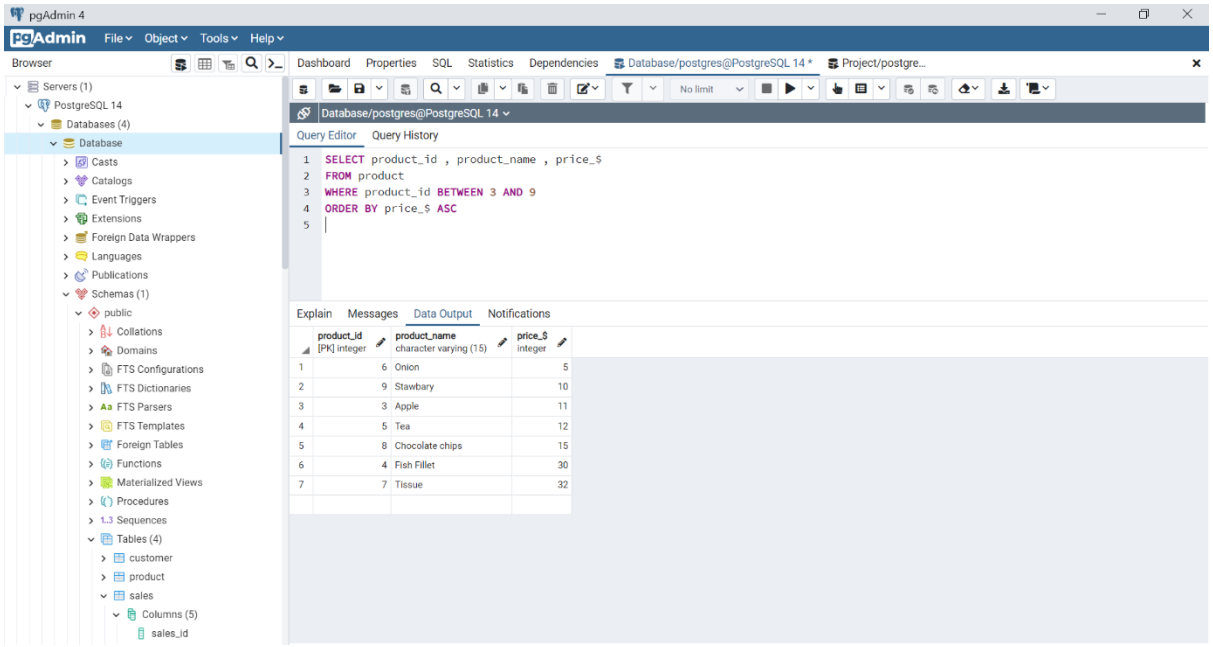
Sort product ascending price

SELECT product_id , product_name , price_$

FROM product

WHERE product_id BETWEEN 3 AND 9

ORDER BY price_$ ASC



Calculate total price of product based on product_id

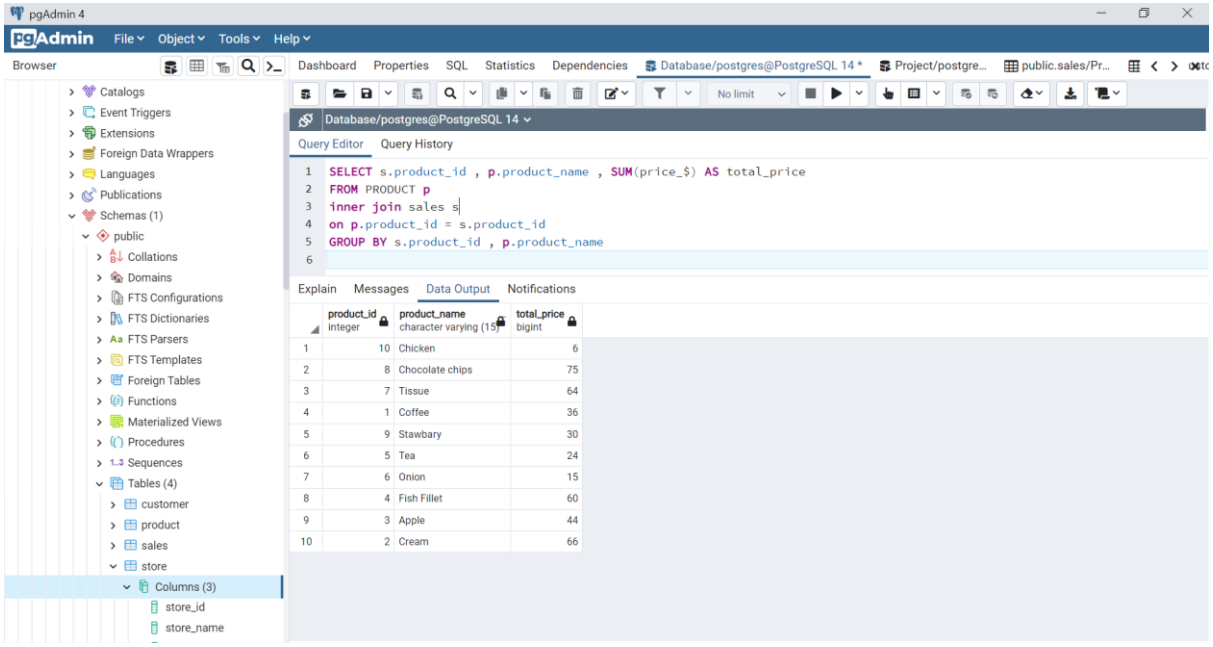
SELECT s.product_id , p.product_name , SUM(price_$) AS total_price

FROM PRODUCT p

inner join sales s

on p.product_id = s.product_id

GROUP BY s.product_id , p.product_name



Count number of customer for each product

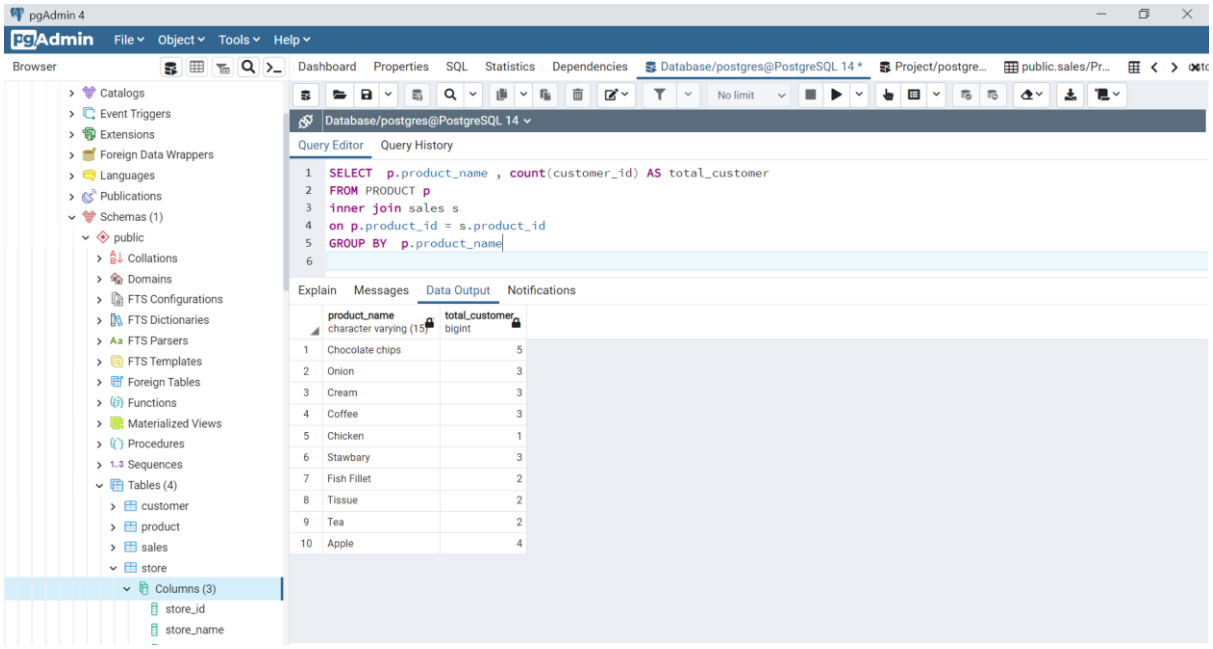
SELECT p.product_name , count(customer_id) AS total_customer

FROM PRODUCT p

inner join sales s

on p.product_id = s.product_id

GROUP BY p.product_name



Create CTE view

```
WITH SALES_VIEW AS (
    SELECT sales_id ,store_id
    FROM sales)
SELECT SALES_VIEW.*  , t.store_name
FROM SALES_VIEW
LEFT JOIN store t
ON SALES_VIEW.store_id = t.store_id
```