DAY 3 – ASSIGNMENT

1) Update the categoryName From “Beverages” to "Drinks" in the categories table.

Before Update:

Data Output | Messages | Notifications

	categoryID [PK] integer	categoryName character varying	description text
1	1	Beverages	Soft drinks, coffees, teas, beers, and ales
2	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
3	3	Confections	Desserts, candies, and sweet breads
4	4	Dairy Products	Cheeses
5	5	Grains & Cereals	Breads, crackers, pasta, and cereal
6	6	Meat & Poultry	Prepared meats
7	7	Produce	Dried fruit and bean curd
8	8	Seafood	Seaweed and fish

After Update:

```
update categories
set "categoryName" = 'Drinks'
where "categoryName" = 'Beverages';
```

select * from categories order by 1;

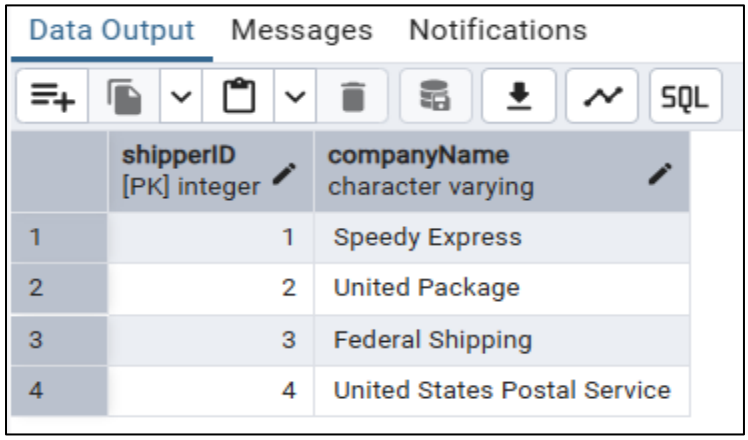
Data Output | Messages | Notifications

	categoryID [PK] integer	categoryName character varying	description text
1	1	Drinks	Soft drinks, coffees, teas, beers, and ales
2	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
3	3	Confections	Desserts, candies, and sweet breads
4	4	Dairy Products	Cheeses
5	5	Grains & Cereals	Breads, crackers, pasta, and cereal
6	6	Meat & Poultry	Prepared meats
7	7	Produce	Dried fruit and bean curd
8	8	Seafood	Seaweed and fish

2) Insert into shipper new record (give any values) Delete that new record from shippers table.

Insert into shippers
values(4, 'United States Postal Service');

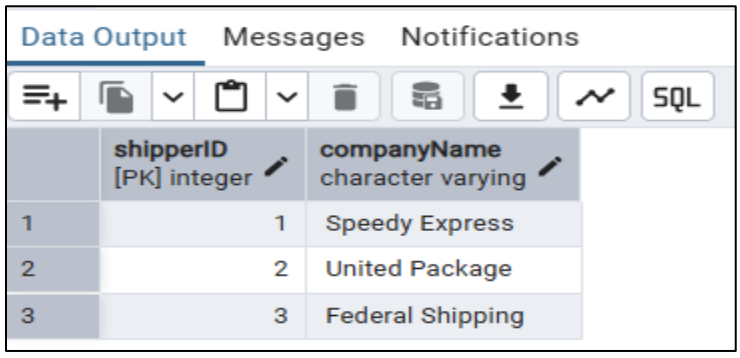
--check
select * from shippers;



	shipperID [PK] integer	companyName character varying
1	1	Speedy Express
2	2	United Package
3	3	Federal Shipping
4	4	United States Postal Service

-- delete the new record
Delete from shippers
where "shipperID" = 4;

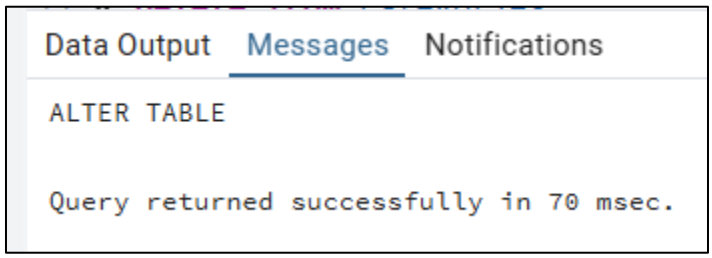
--check
select * from shippers;



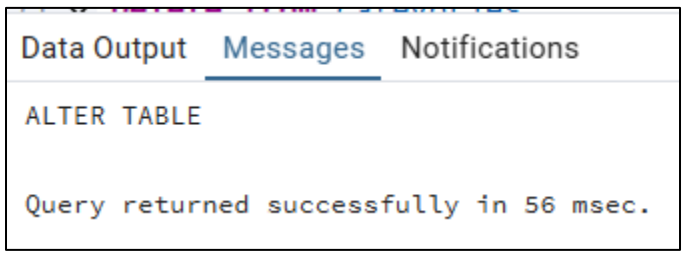
	shipperID [PK] integer	companyName character varying
1	1	Speedy Express
2	2	United Package
3	3	Federal Shipping

3) Update categoryID=1 to categoryID=1001. Make sure related products update their categoryID too. Display both category and products table to show the cascade. Delete the categoryID= “3” from categories. Verify that the corresponding records are deleted automatically from products.
(HINT: Alter the foreign key on products(categoryID) to add ON UPDATE CASCADE, ON DELETE CASCADE)

--update cascade
Alter Table products
Drop Constraint If Exists products_categoryid_fkey;



Alter Table products
Add constraint products_categoryid_fkey
Foreign Key(categoryID)
References categories(categoryID)
On Update Cascade
On Delete Cascade;



update categories
set categoryID = 1001
where categoryID = 1;

Data Output | Messages | Notifications

```
UPDATE 0

Query returned successfully in 90 msec.
```

select * from categories where categoryID = 1001;

Data Output | Messages | Notifications

	categoryid [PK] integer	categoryname character varying (50)	description text
1	1001	Drinks	Soft drinks, coffees, teas, beers, and ales

select * from products where categoryID = 1001;

Data Output | Messages | Notifications

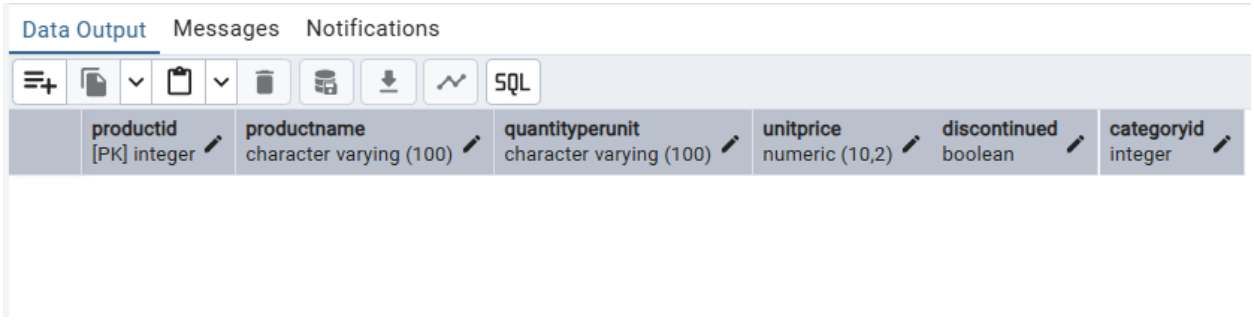
	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	1	Chai	10 boxes x 20 bags	18.00	false	1001
2	2	Chang	24 - 12 oz bottles	19.00	false	1001
3	24	Guarana Fantastica	12 - 355 ml cans	4.50	true	1001
4	34	Sasquatch Ale	24 - 12 oz bottles	14.00	false	1001
5	35	Steeleye Stout	24 - 12 oz bottles	18.00	false	1001
6	38	Côte de Blaye	12 - 75 cl bottles	263.50	false	1001
7	39	Chartreuse verte	750 cc per bottle	18.00	false	1001
8	43	Ipoh Coffee	16 - 500 g tins	46.00	false	1001
9	67	Laughing Lumberjack Lager	24 - 12 oz bottles	14.00	false	1001
10	70	Outback Lager	24 - 355 ml bottles	15.00	false	1001
11	75	Rhönbräu Klosterbier	24 - 0.5 l bottles	7.75	false	1001
12	76	Lakkaliköri	500 ml	18.00	false	1001

Total rows: 12 | Query complete 00:00:00.091

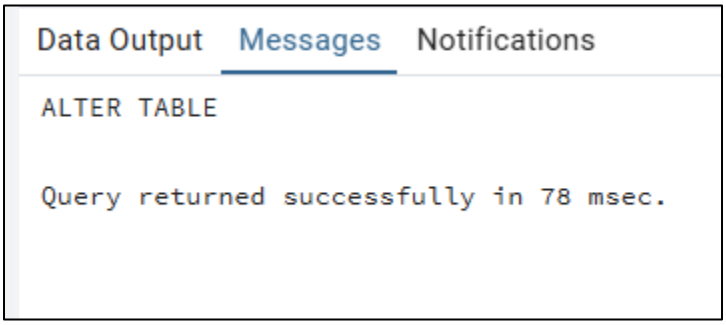
--delete cascade

select * from categories where categoryID = 3;

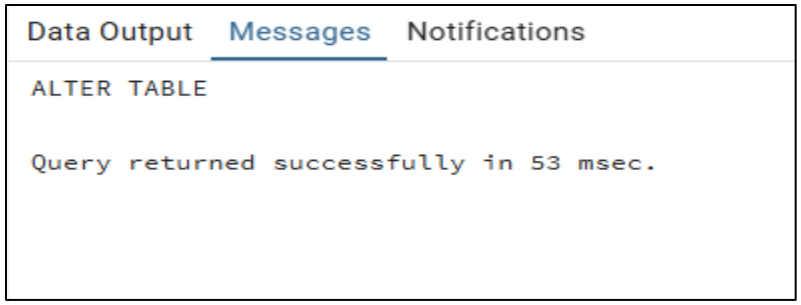
select * from products where categoryID = 3;



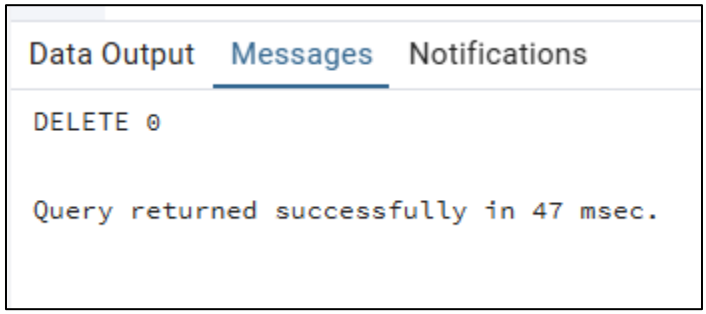
Alter Table order_details
Drop Constraint If Exists order_details_productid_fkey;



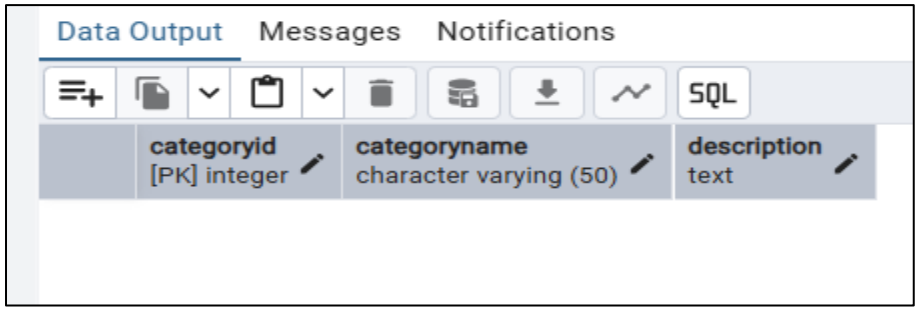
Alter Table order_details
Add constraint order_details_productid_fkey
Foreign Key(productID)
References products(productID)
On Update Cascade
On Delete Cascade;



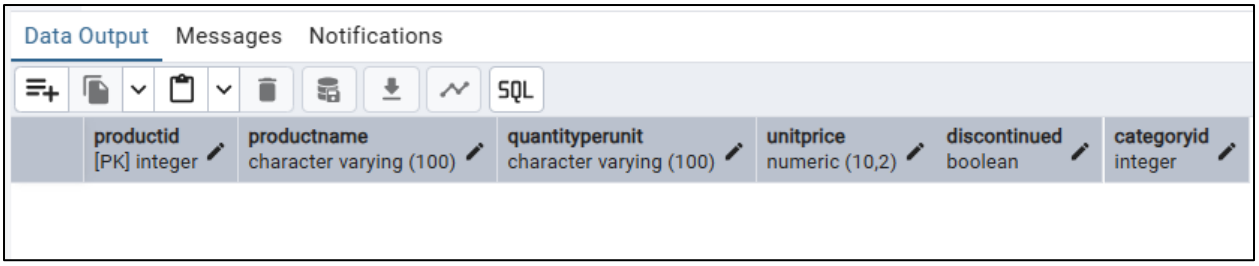
Delete from categories
where categoryID = 3;



select * from categories where categoryID = 3;



select * from products where categoryID = 3;



4) Delete the customer = “VINET” from customers.
Corresponding customers in orders table should be set to null
(HINT: Alter the foreign key on orders(customerID) to use ON DELETE SET NULL).

ALTER TABLE orders
ALTER COLUMN customerID DROP NOT NULL;

select * from customers where customerID = 'VINET'

Data Output | Messages | Notifications

	customerid [PK] character (5)	companyname character varying (100)	contactname character varying (100)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
1	VINET	Vins et alcools Chevalier	Paul Henriot	Accounting Manager	Reims	France

select * from orders where customerID = 'VINET';

Data Output | Messages | Notifications

	orderid [PK] integer	customerid character (5)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
1	10248	VINET	5	2013-07-04	2013-08-01	2013-07-16	3	32.38
2	10274	VINET	6	2013-08-06	2013-09-03	2013-08-16	1	6.01
3	10295	VINET	2	2013-09-02	2013-09-30	2013-09-10	2	1.15
4	10737	VINET	2	2014-11-11	2014-12-09	2014-11-18	2	7.79
5	10739	VINET	3	2014-11-12	2014-12-10	2014-11-17	3	11.08

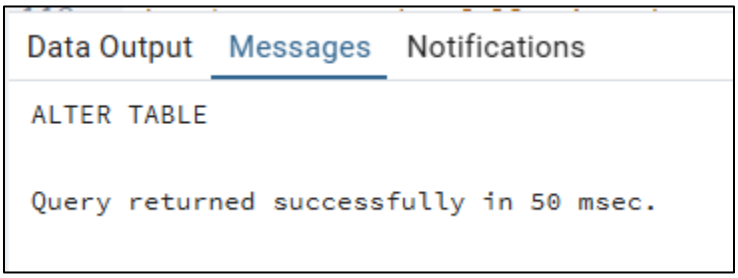
--delete cascade
Alter Table orders
Drop Constraint If Exists orders_customerid_fkey;

Data Output | Messages | Notifications

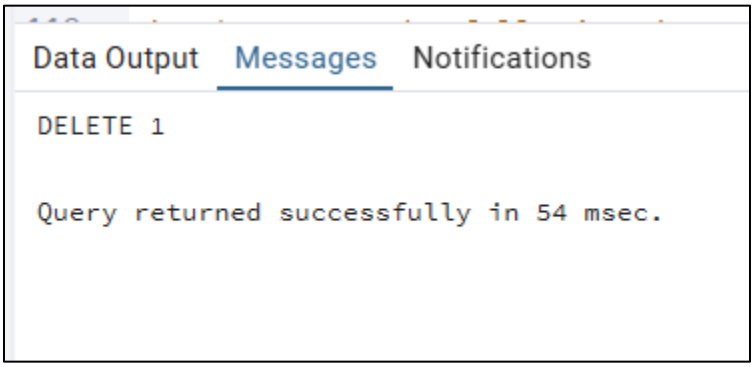
```
ALTER TABLE

Query returned successfully in 78 msec.
```

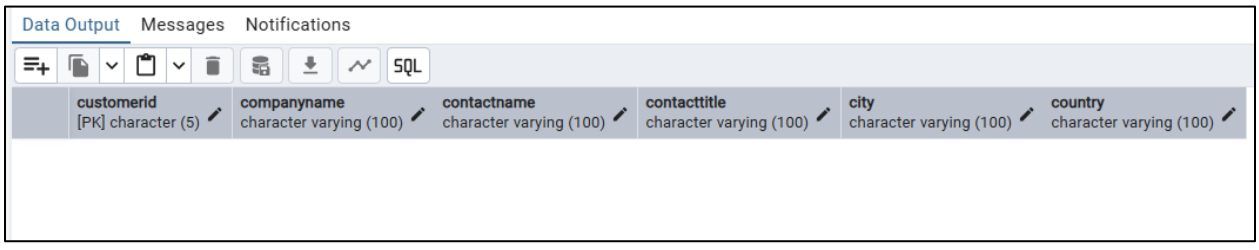
Alter Table orders
Add constraint orders_customerid_fkey
Foreign Key(customerID)
References customers(customerID)
On Delete Set Null;



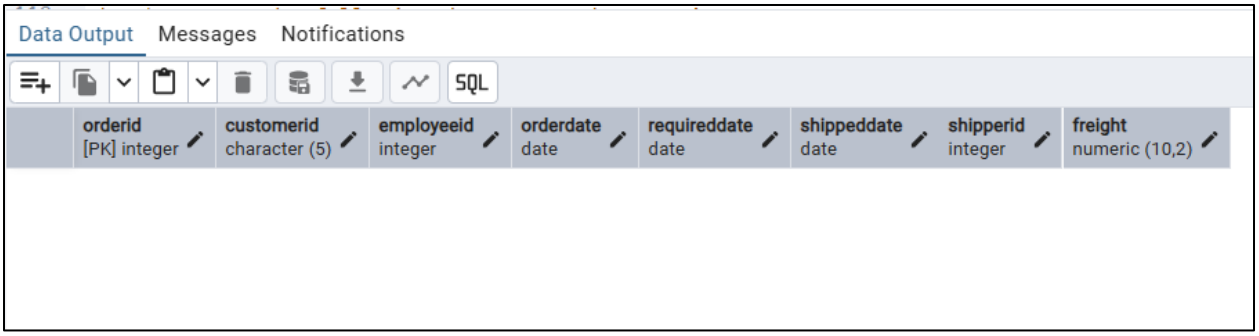
Delete from customers
where customerID = 'VINET';



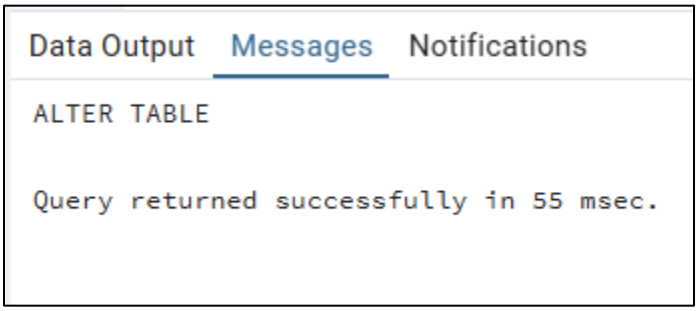
select * from customers where customerID = 'VINET';



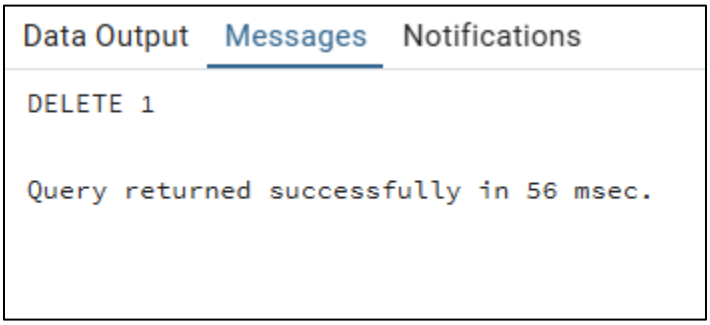
select * from orders where customerID = 'VINET';



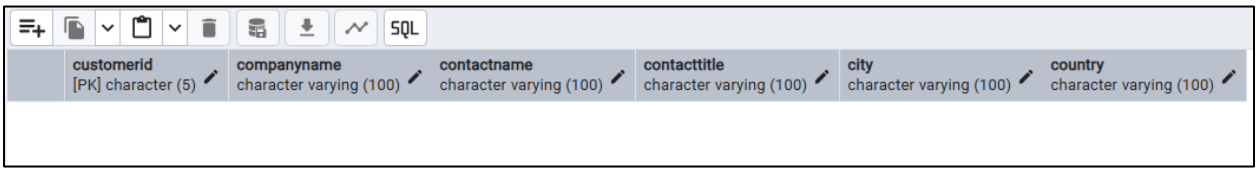
Alter Table orders
Add constraint orders_customerid_fkey
Foreign Key(customerID)
References customers(customerID)
On Delete Set Null;



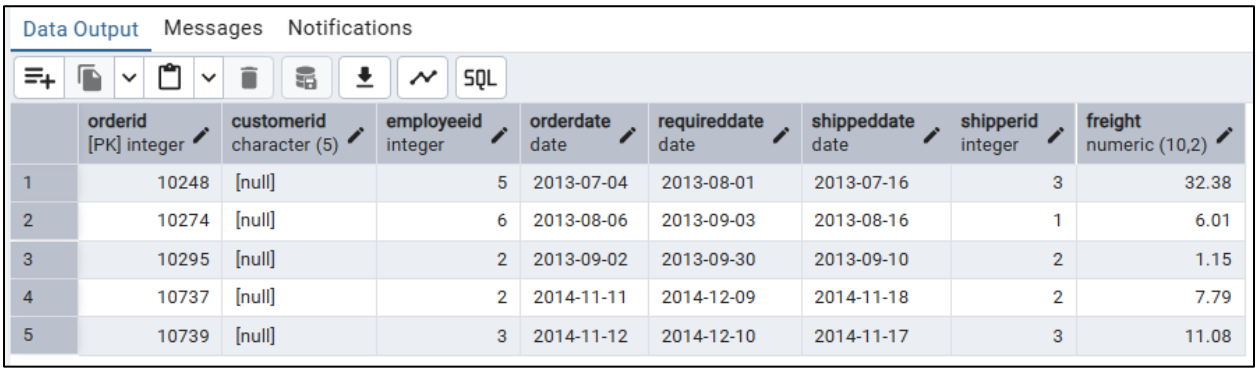
Delete from customers
where customerID = 'VINET';



select * from customers where customerID = 'VINET';



select * from orders where customerID is Null;



Data Output | Messages | Notifications

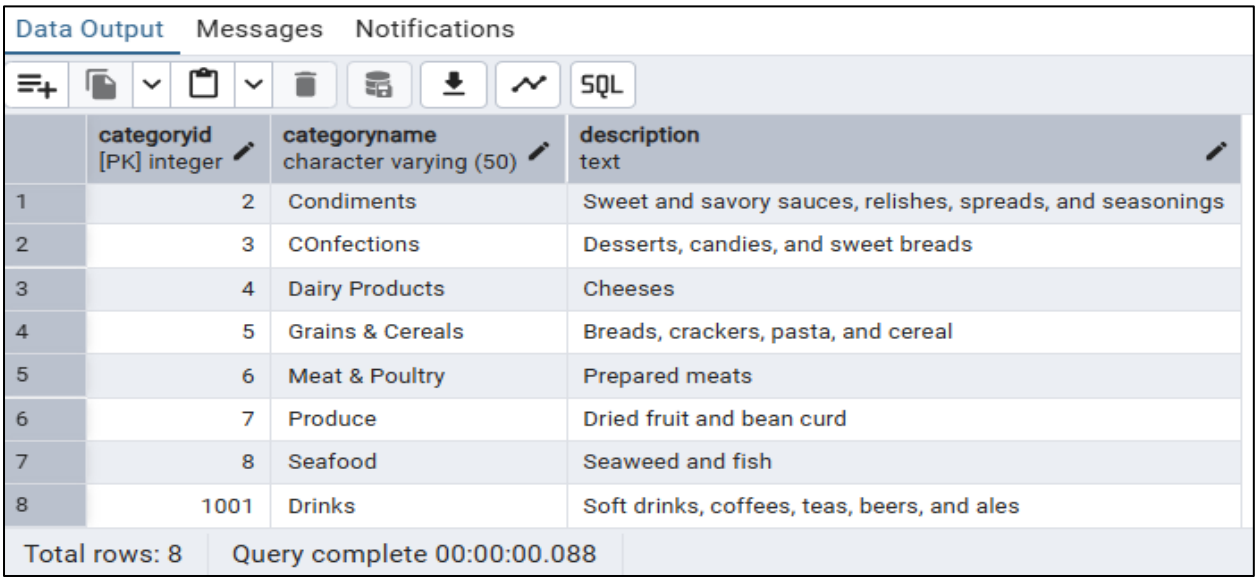
	orderid [PK] integer	customerid character (5)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
1	10248	[null]	5	2013-07-04	2013-08-01	2013-07-16	3	32.38
2	10274	[null]	6	2013-08-06	2013-09-03	2013-08-16	1	6.01
3	10295	[null]	2	2013-09-02	2013-09-30	2013-09-10	2	1.15
4	10737	[null]	2	2014-11-11	2014-12-09	2014-11-18	2	7.79
5	10739	[null]	3	2014-11-12	2014-12-10	2014-11-17	3	11.08

5) Insert the following data to Products using UPSERT:
product_id = 100, product_name = Wheat bread, quantityperunit=1,unitprice = 13, discontinued = 0, categoryID=3
product_id = 101, product_name = White bread, quantityperunit=5 boxes,unitprice = 13, discontinued = 0, categoryID=3
product_id = 100, product_name = Wheat bread, quantityperunit=10 boxes,unitprice = 13, discontinued = 0, categoryID=3
(this should update the quantityperunit for product_id = 100)

------First insert the deleted categoryID 3

insert into categories
values(3, 'COnfections', 'Desserts, candies, and sweet breads');

select * from categories order by 1;



Data Output | Messages | Notifications

	categoryid [PK] integer	categoryname character varying (50)	description text
1	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
2	3	COnfections	Desserts, candies, and sweet breads
3	4	Dairy Products	Cheeses
4	5	Grains & Cereals	Breads, crackers, pasta, and cereal
5	6	Meat & Poultry	Prepared meats
6	7	Produce	Dried fruit and bean curd
7	8	Seafood	Seaweed and fish
8	1001	Drinks	Soft drinks, coffees, teas, beers, and ales

Total rows: 8 | Query complete 00:00:00.088

Insert into products (productid, productname, quantityperunit, unitprice, discontinued, categoryid)
values
(100,'Wheat Bread', 1, 13,'0' , 3);

Data Output | Messages | Notifications

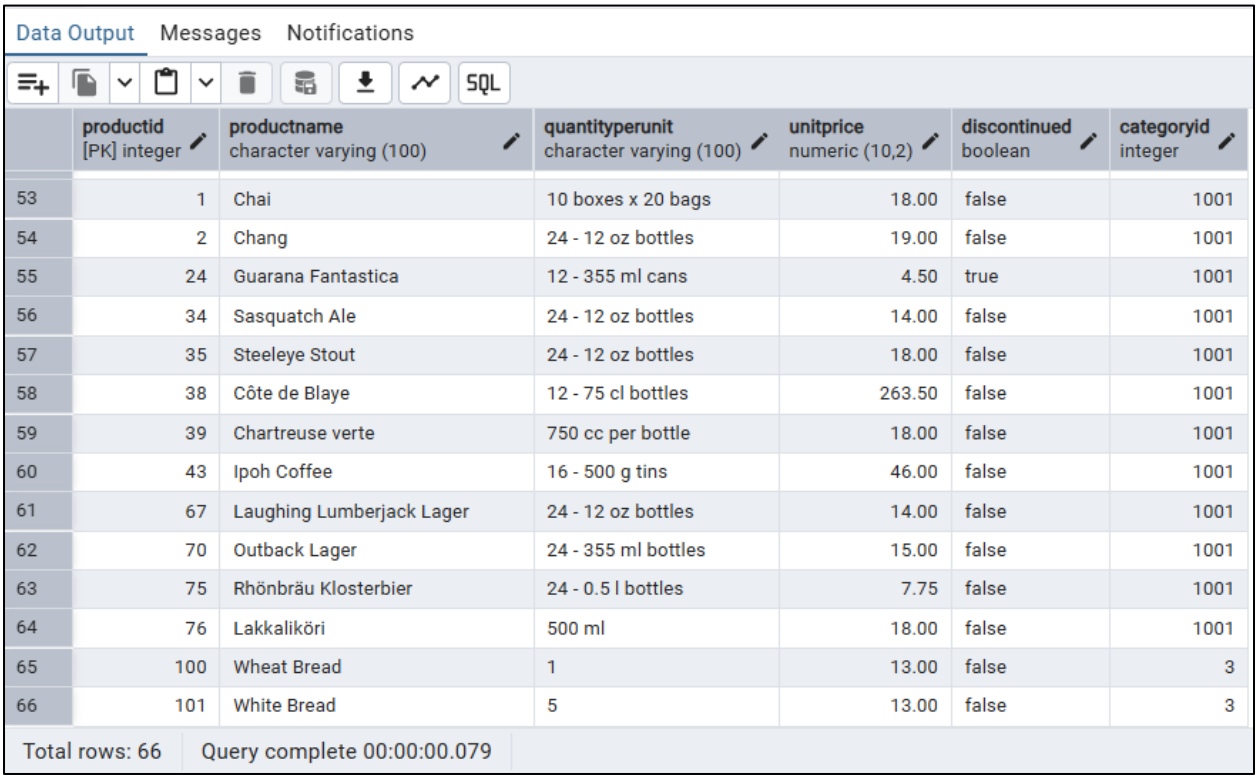
SQL

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
53	1	Chai	10 boxes x 20 bags	18.00	false	1001
54	2	Chang	24 - 12 oz bottles	19.00	false	1001
55	24	Guarana Fantastica	12 - 355 ml cans	4.50	true	1001
56	34	Sasquatch Ale	24 - 12 oz bottles	14.00	false	1001
57	35	Steeleye Stout	24 - 12 oz bottles	18.00	false	1001
58	38	Côte de Blaye	12 - 75 cl bottles	263.50	false	1001
59	39	Chartreuse verte	750 cc per bottle	18.00	false	1001
60	43	Ipoh Coffee	16 - 500 g tins	46.00	false	1001
61	67	Laughing Lumberjack Lager	24 - 12 oz bottles	14.00	false	1001
62	70	Outback Lager	24 - 355 ml bottles	15.00	false	1001
63	75	Rhönbräu Klosterbier	24 - 0.5 l bottles	7.75	false	1001
64	76	Lakkalikööri	500 ml	18.00	false	1001
65	100	Wheat Bread	1	13.00	false	3

- UPSERT 1

Insert Into products(productid, productname, quantityperunit, unitprice, discontinued, categoryid)
Values(101,'White Bread', 5, 13,'0' , 3)
On Conflict(productid)
Do Update
Set productname = EXCLUDED.productname,
quantityperunit = EXCLUDED.quantityperunit,
unitprice = EXCLUDED.unitprice,
discontinued = EXCLUDED.discontinued,
categoryid = EXCLUDED.categoryid;

select * from products;



Data Output | Messages | Notifications

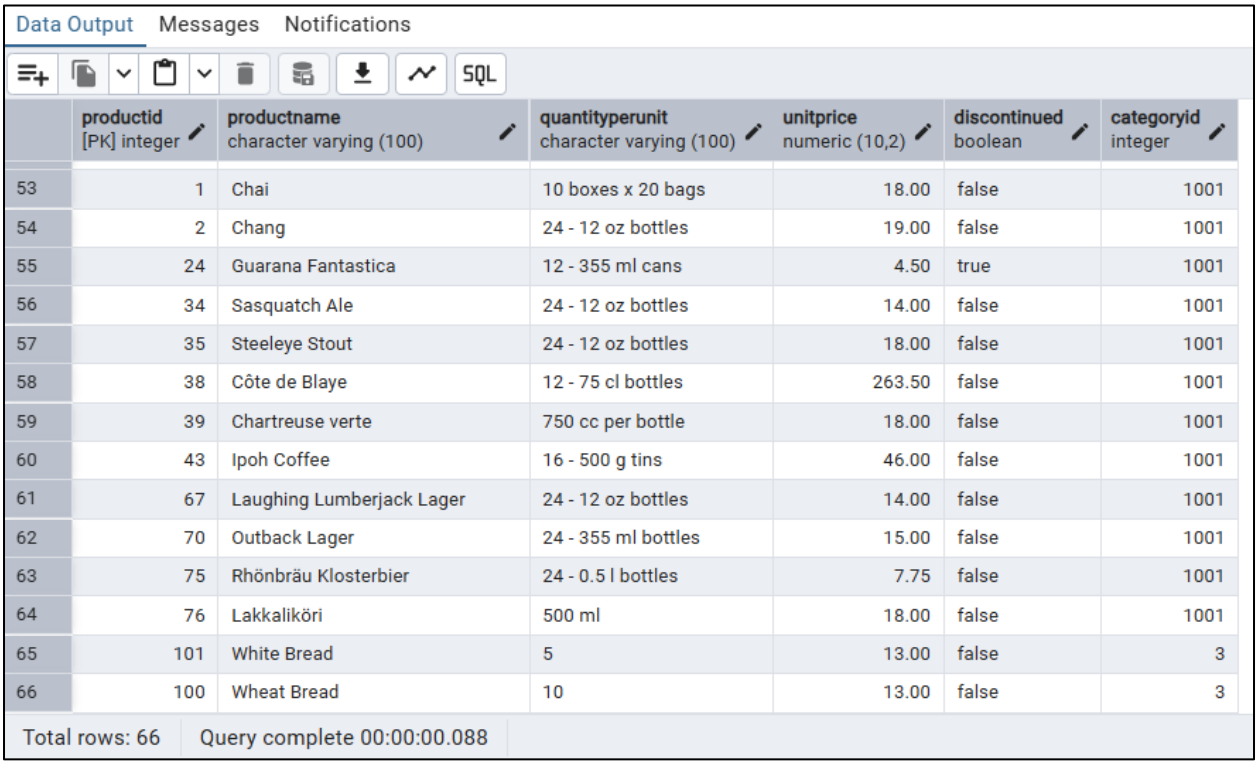
	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
53	1	Chai	10 boxes x 20 bags	18.00	false	1001
54	2	Chang	24 - 12 oz bottles	19.00	false	1001
55	24	Guarana Fantastica	12 - 355 ml cans	4.50	true	1001
56	34	Sasquatch Ale	24 - 12 oz bottles	14.00	false	1001
57	35	Steeleye Stout	24 - 12 oz bottles	18.00	false	1001
58	38	Côte de Blaye	12 - 75 cl bottles	263.50	false	1001
59	39	Chartreuse verte	750 cc per bottle	18.00	false	1001
60	43	Ipoh Coffee	16 - 500 g tins	46.00	false	1001
61	67	Laughing Lumberjack Lager	24 - 12 oz bottles	14.00	false	1001
62	70	Outback Lager	24 - 355 ml bottles	15.00	false	1001
63	75	Rhönbräu Klosterbier	24 - 0.5 l bottles	7.75	false	1001
64	76	Lakkalikööri	500 ml	18.00	false	1001
65	100	Wheat Bread	1	13.00	false	3
66	101	White Bread	5	13.00	false	3

Total rows: 66 | Query complete 00:00:00.079

- UPSERT2

Insert Into products(productid, productname, quantityperunit, unitprice, discontinued, categoryid)
Values(100,'Wheat Bread', 10, 13,'0' , 3)
On Conflict(productid)
Do Update
Set productname = EXCLUDED.productname,
quantityperunit = EXCLUDED.quantityperunit;

```
select * from products;
```



Data Output | Messages | Notifications

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
53	1	Chai	10 boxes x 20 bags	18.00	false	1001
54	2	Chang	24 - 12 oz bottles	19.00	false	1001
55	24	Guarana Fantastica	12 - 355 ml cans	4.50	true	1001
56	34	Sasquatch Ale	24 - 12 oz bottles	14.00	false	1001
57	35	Steeleye Stout	24 - 12 oz bottles	18.00	false	1001
58	38	Côte de Blaye	12 - 75 cl bottles	263.50	false	1001
59	39	Chartreuse verte	750 cc per bottle	18.00	false	1001
60	43	Ipoh Coffee	16 - 500 g tins	46.00	false	1001
61	67	Laughing Lumberjack Lager	24 - 12 oz bottles	14.00	false	1001
62	70	Outback Lager	24 - 355 ml bottles	15.00	false	1001
63	75	Rhönbräu Klosterbier	24 - 0.5 l bottles	7.75	false	1001
64	76	Lakkalikööri	500 ml	18.00	false	1001
65	101	White Bread	5	13.00	false	3
66	100	Wheat Bread	10	13.00	false	3

Total rows: 66 | Query complete 00:00:00.088

6) Write a MERGE query

--- first insert the deleted row again

```
insert into categories
values(1, 'Beverages','Soft drinks, coffees, teas, beers, and ales' )

select * from categories order by 1;
```

-- Create **temp table with name:** updated_products' and insert the given values

```
CREATE TABLE updated_products (
  productID INTEGER PRIMARY KEY,
  productName VARCHAR(100) NOT NULL,
        quantityPerUnit VARCHAR(100),
  UnitPrice DECIMAL(10,2),
        discontinued BOOLEAN NOT NULL,
  categoryID INTEGER,
  FOREIGN KEY (categoryID) REFERENCES categories(categoryID));
```

-- insert values into the new table

```
Insert Into updated_products(productid, productname, quantityperunit,
unitprice, discontinued, categoryid)
Values
(100,'Wheat Bread', 10, 20,'1' , 3),
(101,'White Bread', '15 boxes' , 19.9,'0' , 3),
(102,'Midnight Mango Fizz', '24 - 12 oz bottles', 19,'0' , 1),
(103,'Savory Fire Sauce', '12 - 550 ml bottles', 10,'0' , 2);

select * from updated_products;
```

Data Output | Messages | Notifications

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	100	Wheat Bread	10	20.00	true	3
2	101	White Bread	15 boxes	19.90	false	3
3	102	Midnight Mango Fizz	24 - 12 oz bottles	19.00	false	1
4	103	Savory Fire Sauce	12 - 550 ml bottles	10.00	false	2

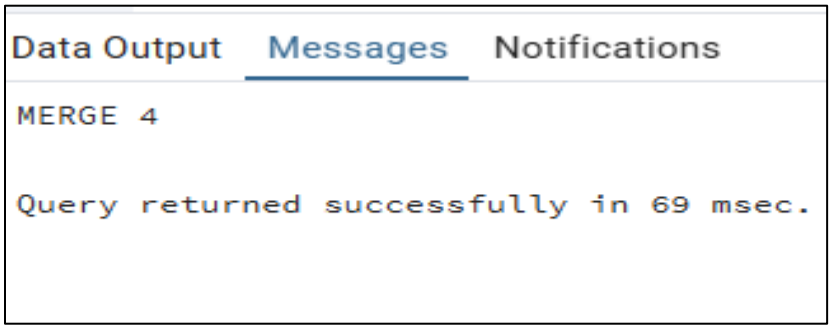
● Update the price and discontinued status from below table ‘updated_products’ only if there are matching products and updated_products .discontinued =0

● If there are matching products and updated_products .discontinued =1 then delete

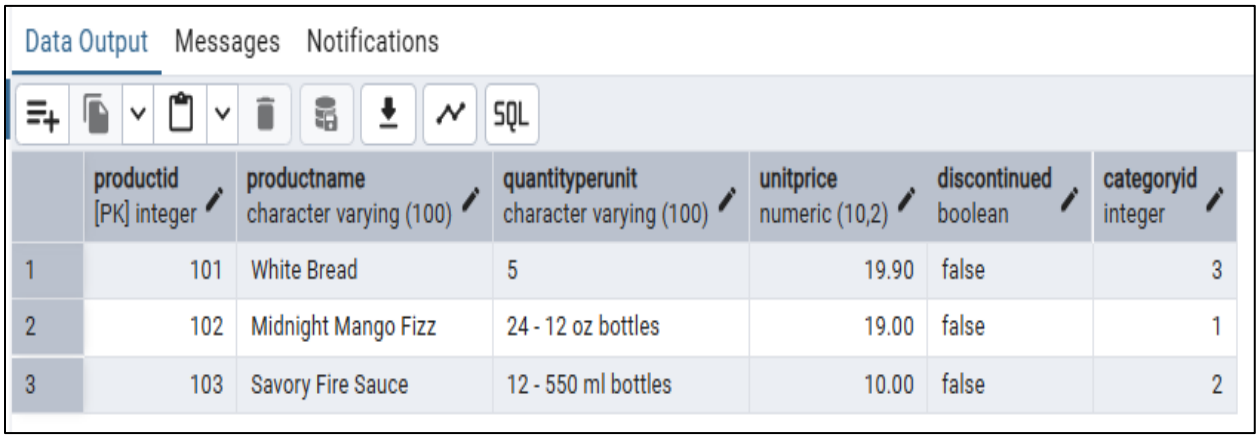
● Insert any new products from updated_products that don’t exist in products only if updated_products .discontinued =0.

```
Merge Into products p
Using (
        Values
                (100,'Wheat Bread', '10', 20,true , 3),
                (101,'White Bread', '15 boxes' , 19.9,false , 3),
                (102,'Midnight Mango Fizz', '24 - 12 oz bottles', 19,false , 1),
                (103,'Savory Fire Sauce', '12 - 550 ml bottles', 10,false , 2)
```

```
) As incoming(productid, productname, quantityperunit, unitprice, discontinued,
categoryid)
On p.productid = incoming.productid
When Matched And incoming.discontinued = false Then
        Update Set
          productname= incoming.productname,
                unitprice = incoming.unitprice
When Matched And incoming.discontinued = true Then
        Delete
When Not Matched And incoming.discontinued = false Then
        Insert(productid, productname, quantityperunit, unitprice, discontinued,
categoryid)
        Values(incoming.productid, incoming.productname, incoming.quantityperunit,
incoming.unitprice, incoming.discontinued, incoming.categoryid);
```




```
select * from products where productid in(100,101,102,103);
```



	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	101	White Bread	5	19.90	false	3
2	102	Midnight Mango Fizz	24 - 12 oz bottles	19.00	false	1
3	103	Savory Fire Sauce	12 - 550 ml bottles	10.00	false	2

7) List all orders with employee full names. (Inner join)

```
select o.order_id, o.employee_id, concat(e.first_name, ' ', e.last_name)  as
Fullname
from orders o
inner join employees e
on o.employee_id = e.employee_id;
```

Data Output | Messages | Notifications

	order_id [PK] smallint	employee_id smallint	fullname text
1	10248	5	Steven Buchanan
2	10249	6	Michael Suyama
3	10250	4	Margaret Peacock
4	10251	3	Janet Leverling
5	10252	4	Margaret Peacock
6	10253	3	Janet Leverling
7	10254	5	Steven Buchanan
8	10255	9	Anne Dodsworth
9	10256	3	Janet Leverling
10	10257	4	Margaret Peacock
11	10258	1	Nancy Davolio
12	10259	4	Margaret Peacock
13	10260	4	Margaret Peacock
14	10261	4	Margaret Peacock
15	10262	8	Laura Callahan
16	10263	9	Anne Dodsworth
17	10264	6	Michael Suyama
18	10265	2	Andrew Fuller
19	10266	3	Janet Leverling
20	10267	4	Margaret Peacock
21	10268	8	Laura Callahan
22	10269	5	Steven Buchanan
23	10270	1	Nancy Davolio
24	10271	6	Michael Suyama
25	10272	6	Michael Suyama
26	10273	3	Janet Leverling
27	10274	6	Michael Suyama
28	10275	1	Nancy Davolio
29	10276	8	Laura Callahan
30	10277	2	Andrew Fuller

Total rows: 830 | Query complete 00:00:00.104