King Saud University
College of Computer and Information Sciences
Department of Information Technology

IT222: Database Principles
2nd Semester 1444 H

SHEIN

Phase # 1

Section #	NAME	ID
View Name: ***customer***		
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Project Description:

SHEIN is an online retail application that imports shoes, clothes, bags, and accessories for both genders, also they have children's section and home section. Our project aims to build a database for SHEIN online shopping, and the purpose of this database is to improve the data that is used to support the retail application of SHEIN for the purchasers.

View Description:

The view revolves around the customer since he is the person who will view and order from SHEIN's product. Moreover, he can check the tracking of the order.

Data Requirements:

Product:

Product is an item, it can be shoes, bag, or any other product can be sold from SHEIN online shopping. The product has a Name, Price, State, pColor, and unique ProductNo. The product belongs to one-to-many category.

ShippingCompany:

ShippingCompany is responsible to ship the order to the customer. it has the CompanyName, and unique ShippingID. ShippingCompany is shipped by one-to-many order.

Customer:

Customer is the person who orders the product from SHEIN. The customer has a Name, password, PhoneNO, Address, and a unique email. Each customer can place zero to many orders.

Order:

Order is the request from the customer to buy stuff from the retail application. The order has an OrderDate, TotalPrice, Quantity, and unique OrderID. The order can be placed by one and only one customer.

Category:

Category is SHEIN section that describes product type and contains it. It has the Photo, and unique Cname. Category belongs to zero to one category.

Transaction Requirements:

Data Entry:

Enter customer's email.
Enter customer's Name.

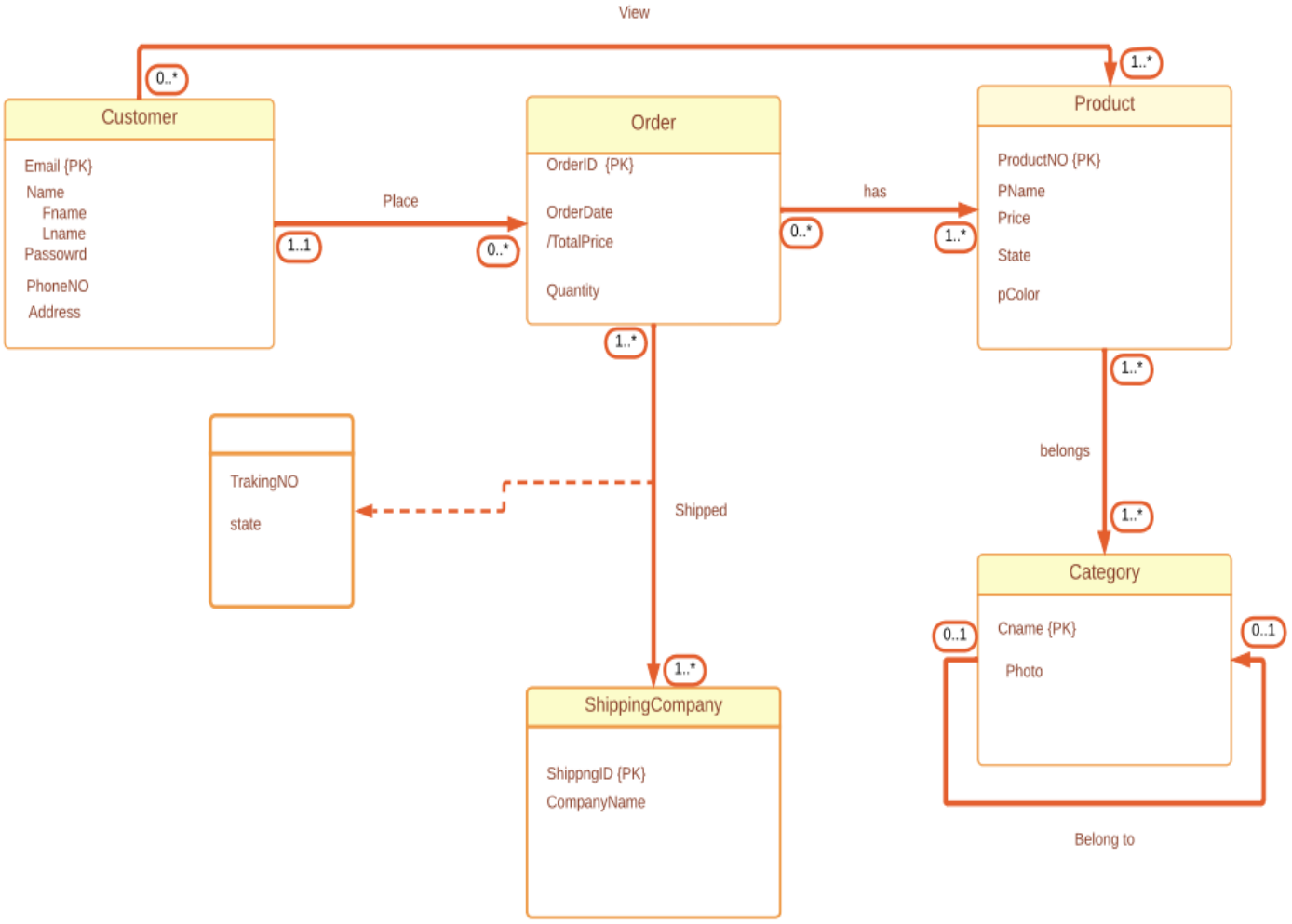
Data update/deletion:

Delete a product from an order.
Update customer's information.
Update an address.
Update a product to the order.

Data Queries:

1. *Search for a specific range of price.*
2. *Search for a product PName.*
3. *Search for a product using ProductNo.*
4. *Search with a specific color.*
5. *Display the order tracking state.*
6. *Search for the state of current product.*
7. *List all the orders information for the customer.*
8. *Search for a product T-shirt category.*
9. *Display women's clothes.*
10. *list customer's information.*

Global enhanced entity relationship diagram (EER):



Relational Schema:

Customer (Email, Fname , Lname, Password , PhoneNo , Address)

Primary Key Email

View (Email, ProductNO)

Primary Key Email, ProductNO

Foreign Key Email references Customer (Email).

Foreign Key ProductNO references Product(ProductNO).

Order (Email, OrderID, OrderDate, TotalPrice, Quantity, TracktingNO, state)

Primary Key OrderID.

Foreign Key Email references Customer (Email).

Has (OrderID, ProductNO).

Primary Key OrderID, ProductNO.

Foreign Key OrderID references Order (OrderID).

Foreign Key ProductNO references Product(ProductNO).

Shipped (OrderID, ShippingID, TracktingNO , state)

Primary Key OrderID, ShippingID.

Foreign Key OrderID references Order (OrderID).

Foreign Key ShippingID references ShippingCompany (ShippingID).

ShippingCompany(ShippingID , CompanyName).

Primary Key ShippingID.

Product (ProductNO, PName, Price , Pstate , Pcolor).

Primary Key ProductNO.

Belongs (ProductNO, Cname)

Primary Key ProductNO, Cname.

Foreign Key Cname references Category (Cname).

Foreign Key ShippingID references ShippingCompany (ShippingID).

Category (Cname, Cname1, Photo)

Primary Key Cname

Foreign Key Cname1 *references Category (Cname).*

Data Dictionary showing description of all entities:

Entity Name	Description	Occurrence
Customer	*Customer is the person who orders the product from SHEIN.*	*Each customer can place zero to many orders.*
Order	*Order is the request from the customer to buy stuff from SHEIN.*	*Order can be placed by one and only one customer.*
Product	*Product is an item, it can be shoes, bag, or any other product can be sold from SHEIN.*	*Product belongs to one-to-many category.*
ShippingCompany	*ShippingCompany is responsible to ship the order to the customer.*	*ShippingCompany is shipped by one-to-many order.*
Category	*Category is SHEIN section that describes product type and contains it.*	*Category belongs to zero to one category*

Data Dictionary showing description of all relationships:

Entity Name	Multiplicity	Relationship	Entity Name	Multiplicity
Customer	1…1 0…*	Place view	Order Product	0…* 1…*
Order	0…* 1…*	Has Shipped	Product ShippingCompany	1…* 1…*
Product	1…*	Belongs	Category	1…*
Category	1…*	Belong to	Category	1…*

Data Dictionary showing description of all attributes:

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
Customer	Email	Email uniquely for the customer	VARCHAR		N	N			Y
	Name		VARCHAR		N	Y			
	password		VARCHAR	20	N	N			
	PhoneNO		INTEGER	10	N	N			
	Address		VARCHAR	30		N			
Order	orderID		VARCHAR	15	N	N			Y
	orderDate		VARCHAR	10		N			
	TotalPrice		DECIMAL	8.1		N			
	Quntity		INTEGER	5		N			
Shipping Company	ShippingID		VARCHAR	10	N	N			Y
	CompanyName		VARCHAR	15		N			
Product	ProductNO		INTEGER	8	N	N			Y
	PName		VARCHAR	20		N			
	Price		DECIMAL	5	N	N			
	Pstate		VARCHAR	15	N	N			
	pClolor		VARCHAR	15	N	N			
Category	Cname		VARCHAR	15	N	N			Y
	Photo								
Shipped	TrackingNo		VARCHAR	10	N	N			
	state		VARCHAR	15		N			

DB tables creation commands:

CREATE TABLE Customer
(Email varchar(20),
Fname varchar(15),
Lname varchar(15),
Password varchar(20),
PhoneNO INTEGER,
Address varchar(30),
PRIMARY KEY(Email));

CREATE TABLE Product
(ProductNO INTEGER,
Pname varchar(20),
Price decimal(8 , 1),
Pstate varchar(15),
pColor varchar(15),
PRIMARY KEY(ProductNO));

CREATE TABLE View
(Email varchar(20),
ProductNO INTEGER,
PRIMARY KEY(Email, ProductNO),
FOREIGN KEY(Email) REFERENCES Customer (Email),
FOREIGN KEY(ProductNO) REFERENCES Product (ProductNO));

CREATE TABLE Order1
(orderID VARCHAR (15),
orderDate VARCHAR (12),
Quntity INTEGER,
Email VARCHAR (20),
PRIMARY KEY(orderID),
FOREIGN KEY(Email) REFERENCES Customer (Email));

CREATE TABLE Has
(orderID VARCHAR (15),
ProductNO INTEGER,
PRIMARY KEY(orderID, ProductNo),
FOREIGN KEY(ProductNO) REFERENCES Product (ProductNO),
FOREIGN KEY(orderID) REFERENCES Order1(orderID));

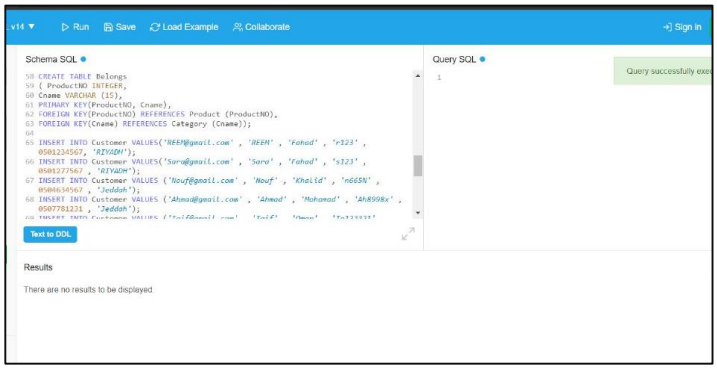
CREATE TABLE ShippingCompany

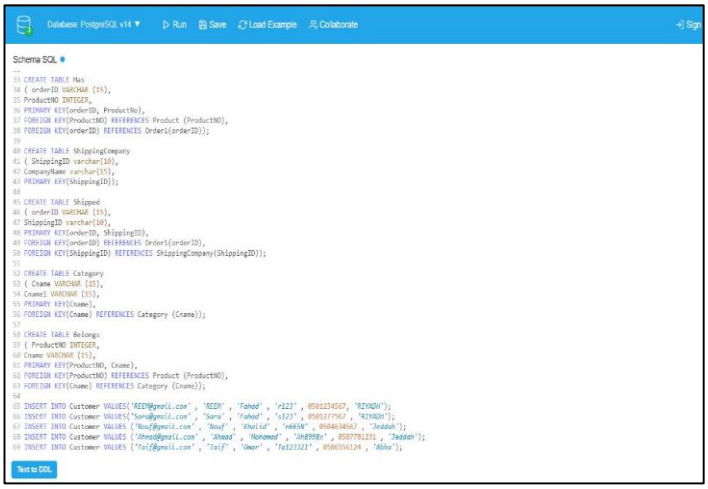
(ShippingID varchar(10),
CompanyName varchar(15),
PRIMARY KEY(ShippingID));

CREATE TABLE Shipped
(orderID VARCHAR (15),
ShippingID varchar(10),
PRIMARY KEY(orderID, ShippingID),
FOREIGN KEY(orderID) REFERENCES Order1(orderID),
FOREIGN KEY(ShippingID) REFERENCES ShippingCompany(ShippingID));

CREATE TABLE Category
(Cname VARCHAR (15),
Cname1 VARCHAR (15),
PRIMARY KEY(Cname),
FOREIGN KEY(Cname) REFERENCES Category (Cname));

CREATE TABLE Belongs
(ProductNO INTEGER,
Cname VARCHAR (15),
PRIMARY KEY(ProductNO, Cname),
FOREIGN KEY(ProductNO) REFERENCES Product (ProductNO),
FOREIGN KEY(Cname) REFERENCES Category (Cname));





Data insertion commands:

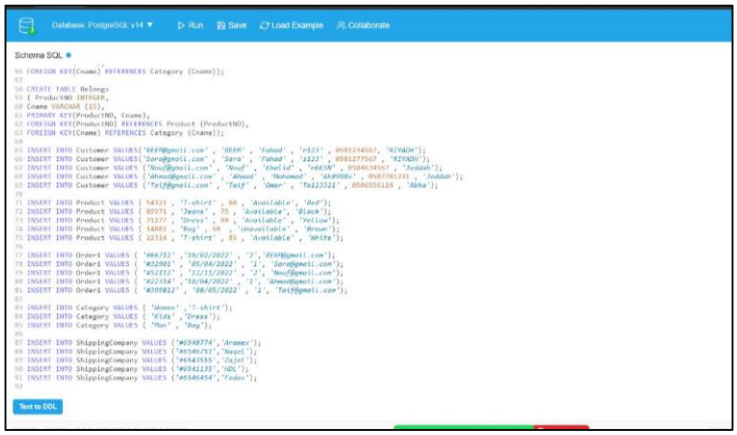
INSERT INTO Customer VALUES('REEM@gmail.com' , 'REEM' , 'Fahad' , 'r123' , 0501234567, 'RIYADH');
INSERT INTO Customer VALUES('Sara@gmail.com' , 'Sara' , 'Fahad' , 's123' , 0501277567 , 'RIYADH');
INSERT INTO Customer VALUES ('Nouf@gmail.com' , 'Nouf' , 'Khalid' , 'n665N' , 0504634567 , 'Jeddah');
INSERT INTO Customer VALUES ('Ahmad@gmail.com' , 'Ahmad' , 'Mohamad' , 'Ah8998x' , 0507781231 , 'Jeddah');
INSERT INTO Customer VALUES ('Taif@gmail.com' , 'Taif' , 'Omar' , 'Ta123321' , 0506556124 , 'Abha');

INSERT INTO Product VALUES (54321 , 'T-shirt' , 60 , 'Available', 'Red');
INSERT INTO Product VALUES (89971 , 'Jeans' , 75 , 'Available', 'Black');
INSERT INTO Product VALUES (71277 , 'Dress' , 99 , 'Available' , 'Yellow');
INSERT INTO Product VALUES (14882 , 'Bag' , 50 , 'Unavailable' , 'Brown');
INSERT INTO Product VALUES (22314 , 'T-shirt' , 85 , 'Available' , 'White');

INSERT INTO Order1 VALUES ('#66712' ,'10/02/2022' , '2','REEM@gmail.com');
INSERT INTO Order1 VALUES ('#32901' , '05/04/2022' , '1', 'Sara@gmail.com');
INSERT INTO Order1 VALUES ('#52112' , '12/11/2022' , '2', 'Nouf@gmail.com');
INSERT INTO Order1 VALUES ('#22314' ,'10/04/2022' , '1', 'Ahmad@gmail.com');
INSERT INTO Order1 VALUES ('#399812' , '08/05/2022' , '1', 'Taif@gmail.com');

INSERT INTO Category VALUES ('Women' ,'T-shirt');
INSERT INTO Category VALUES ('Kids' ,'Dress');
INSERT INTO Category VALUES ('Man' , 'Bag');

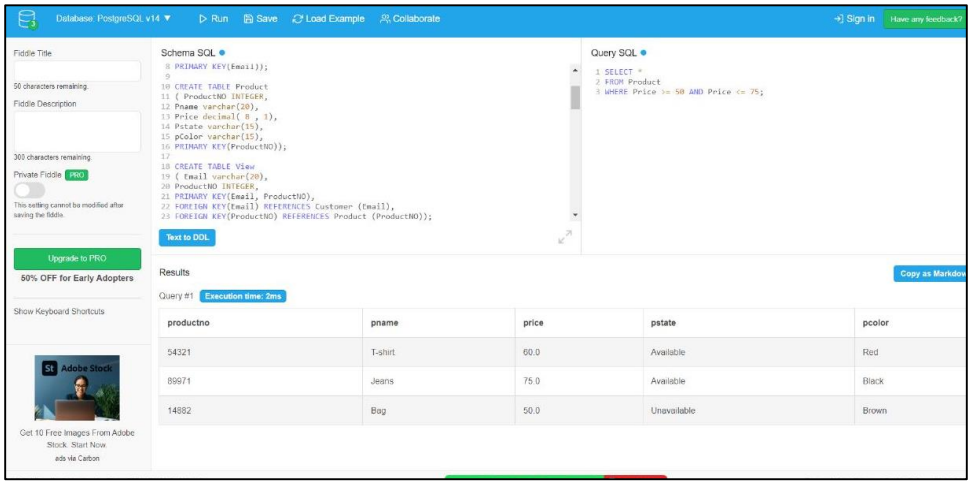
INSERT INTO ShippingCompany VALUES ('#6548774','Aramex');
INSERT INTO ShippingCompany VALUES ('#6546751','Naqel');
INSERT INTO ShippingCompany VALUES ('#6543555','Zajel');
INSERT INTO ShippingCompany VALUES ('#6541135','HDL');
INSERT INTO ShippingCompany VALUES ('#6546454','Fedex');



Data Queries commands and outputs:

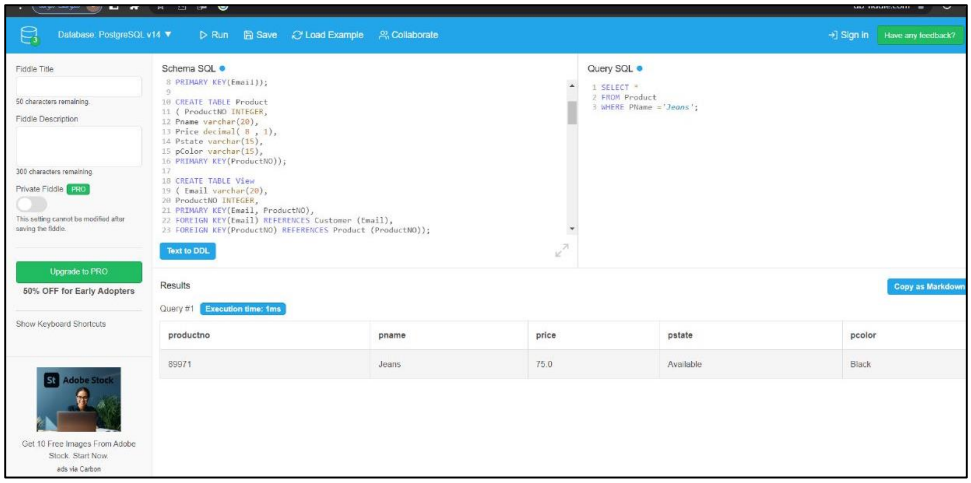
1. *Search for a specific range of price.*

```
SELECT *
FROM Product
WHERE Price >=50 AND Price <=75 ;
```



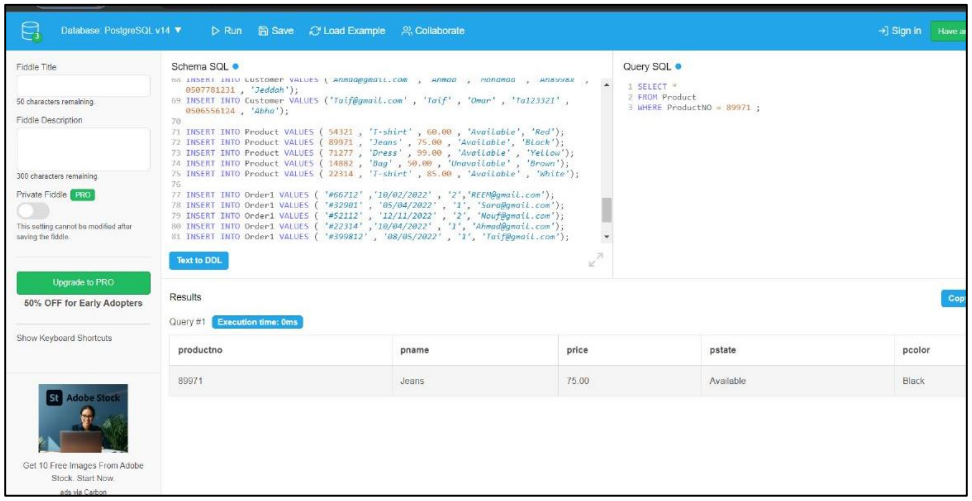
2. *Search for a product PName.*

```
SELECT *
FROM Product
WHERE PName ='Jeans';
```



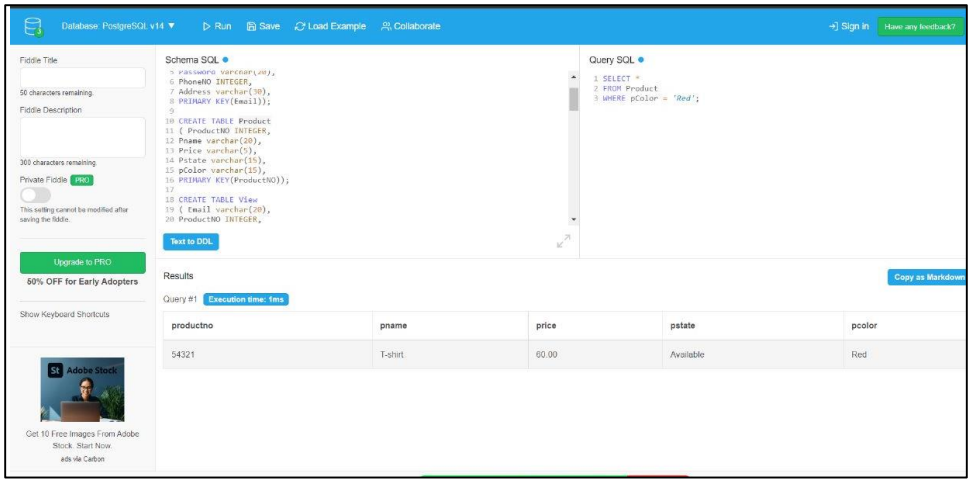
3. *Search for a product using ProductNo..*

```
SELECT*
FROM Product
WHERE ProductNO = 22314;
```



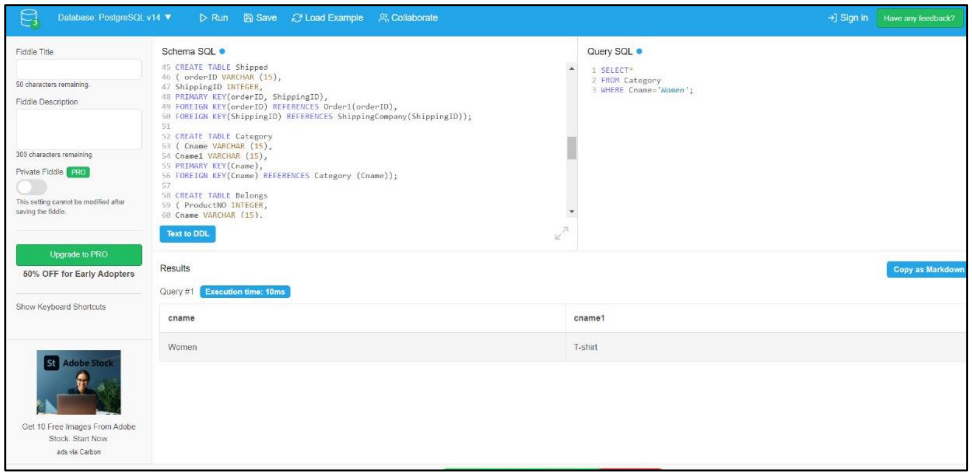
4. *Search with a specific color.*

```
SELECT *
FROM Product
WHERE Pcolor = ' Red' ;
```



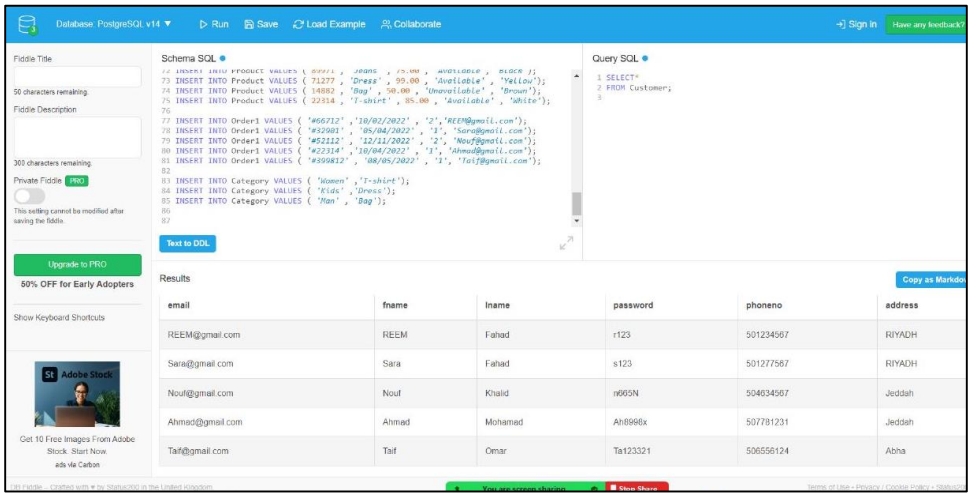
5. *Display women's clothes.*

```
SELECT *
FROME Category
WHERE Cname = 'Women';
```



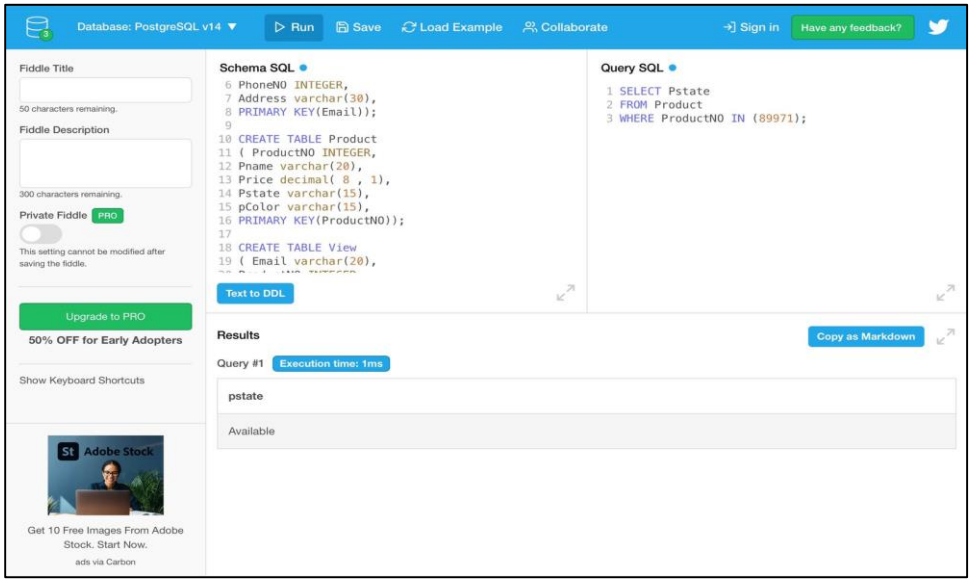
6. *list customer's information.*

```
SELECT*
FROM Customer;
```



7. *Search for the state of current product*

```
SELECT Pstate
FROM Product
WHERE ProductNO IN (89971);
```



Work Distribution:

NAME	ID	Percentage
Najla Alajaleen	*442202197*	***20%***
Hadeel Alsaleh	*441201424*	***20%***
Noura Alaskar	*442202216*	***20%***
Taif Alrubeaan	*442202301*	***20%***
Shahad Aldhawyan	*442204761*	***20%***