



# **Online Food Ordering System**

**Team C**

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# **Online Food Ordering System (OFOS)**

## **Overview**

The Covid-19 pandemic over the last few years has directly influenced the demand for online food ordering. Takeaways online or pay-for-delivery are solutions many restaurants employ as viable solutions.

The online food ordering system proposed by our team will consist of two main components. First, an application allows customers to view the online menu and quickly place an order per their preference. Second, an administrative interface that enables all orders to be received and fulfilled by the restaurant.

The payments will be accepted online by credit card payment or PayPal. All details of users will be securely maintained to facilitate payment details and customer privacy.

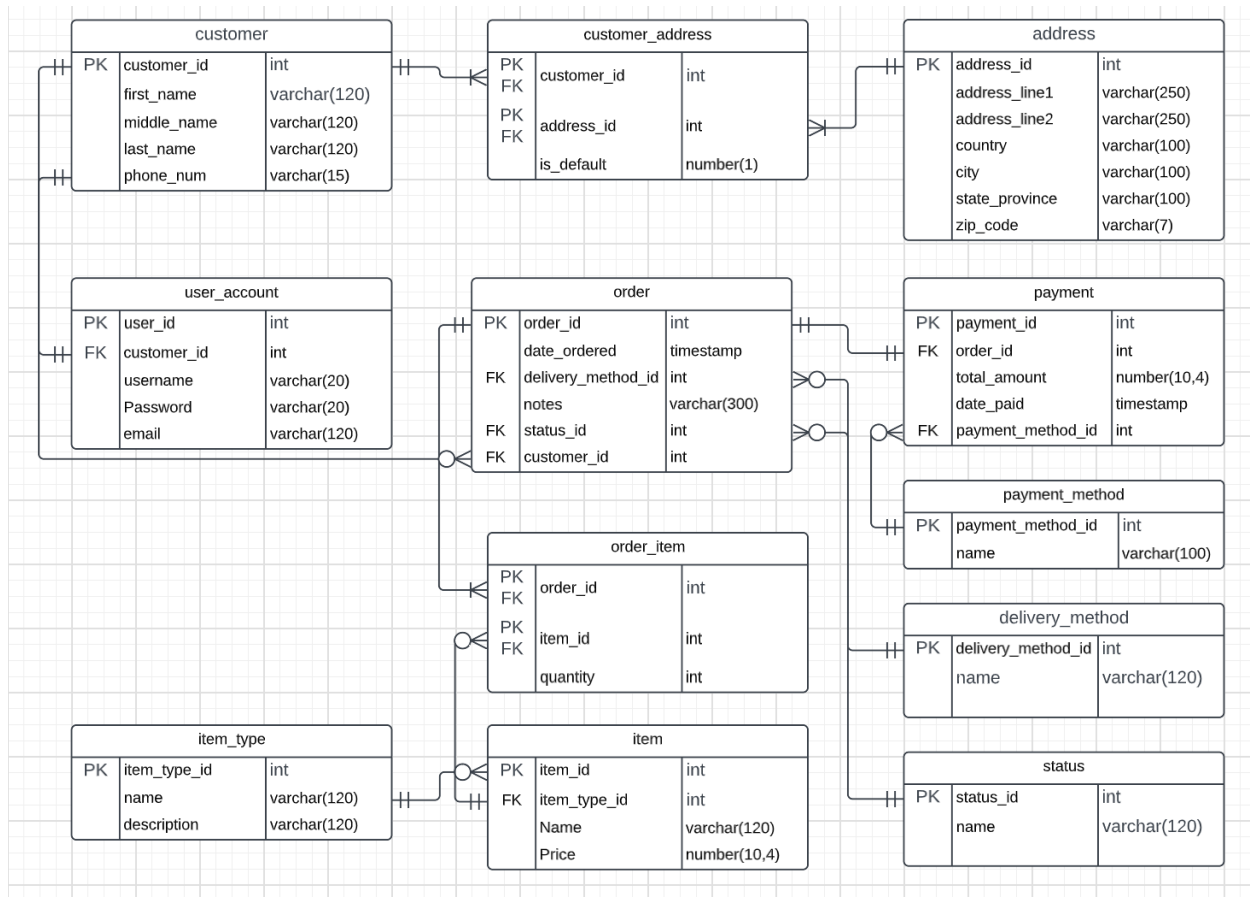
The online food ordering system will function as follows;

- Customers will connect to the food ordering application, and they can navigate to the menu and select orders of their choice.
- The orders selected will be added to the shopping cart. The customers can view the cart and update quantities and items as desired.
- A payment method will be available to customers, such as paying via PayPal or credit card. If via the latter, the customer must sign in or sign up and provide their credit card information.
- Once payment is confirmed, the customer can view the progress of their orders by selecting the view “status” tab.

- The admin user can monitor orders and update their status as required. The admin user manages user account information.

## **Design and Implementation**

### **E-R Diagram**



**Figure 1: Diagram showing the ER Database Design for OFOS**

## Relational Database Schema

### *Entity: delivery\_method*

The entity “delivery\_method” represents the various ways food can be delivered, such as in-store pickup, drop-off location, etc.

### *Normalization:*

BCNF - The entity item\_type is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### *Schema:*

delivery\_method

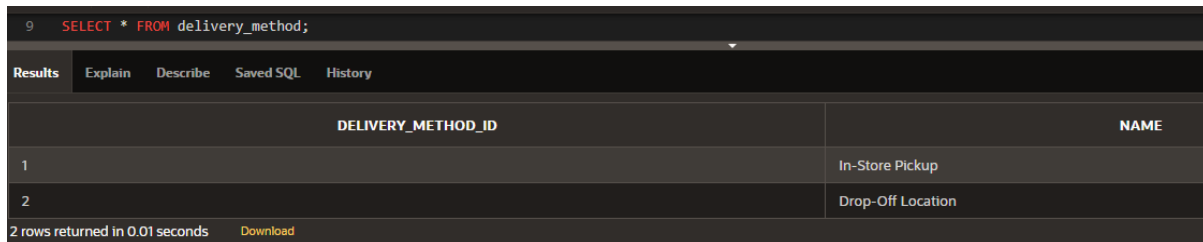
```
(  
delivery_method_id int NOT NULL,  -- uniquely identifies each delivery method  
name varchar(120) NOT NULL,      -- the name of the delivery method which cannot be more  
                                -- than 120 characters in length and required  
CONSTRAINT pk_delivery_method_id PRIMARY KEY CLUSTERED (delivery_method_id),  
CONSTRAINT delivery_method_uk UNIQUE(name),  -- each delivery method name should  
                                -- be unique  
)
```

***DDL:***

```
create table delivery_method
(
  delivery_method_id int not null,
  name varchar(120) not null,
  primary key (delivery_method_id)
);
```

***Results:***

```
SELECT * FROM delivery_method;
```



The screenshot shows a SQL query execution interface. At the top, the query `SELECT * FROM delivery_method;` is entered. Below the query bar, there are tabs for **Results**, **Explain**, **Describe**, **Saved SQL**, and **History**. The **Results** tab is active, displaying a table with two columns: **DELIVERY\_METHOD\_ID** and **NAME**. The table contains two rows of data. At the bottom of the results area, it states "2 rows returned in 0.01 seconds" and provides a **Download** link.

DELIVERY_METHOD_ID	NAME
1	In-Store Pickup
2	Drop-Off Location

2 rows returned in 0.01 seconds [Download](#)

### ***Entity: item\_type***

The entity “item\_type” represents the various types of the food items, such as drinks, desserts, pasta, etc.

### ***Normalization:***

BCNF - The entity item\_type is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

item\_type

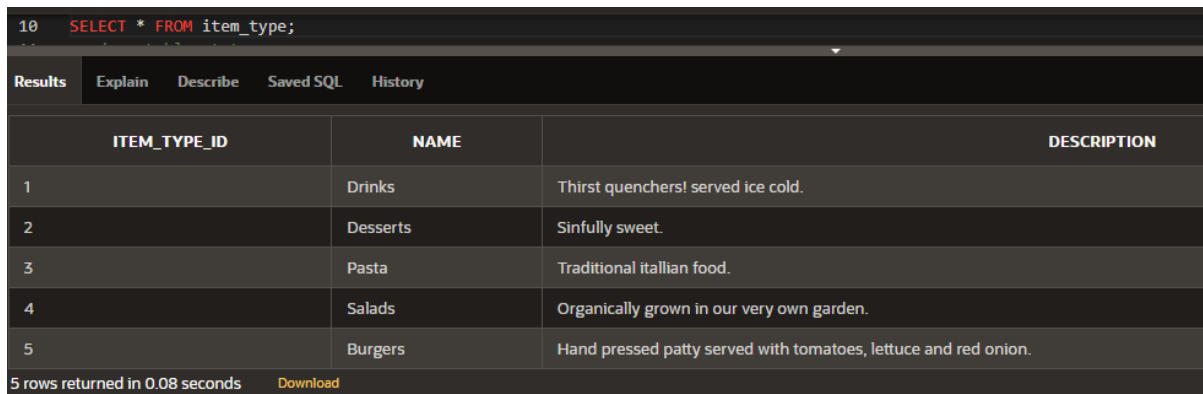
```
(  
item_type_id int NOT NULL,      -- uniquely identifies each item type  
name varchar(120) NOT NULL,    -- the name of the item type which cannot be more than 120  
                                characters in length and required  
description varchar(300) NOT NULL, -- a short description of the type which should not be  
                                more than 300 characters in length and required  
CONSTRAINT pk_item_type_id PRIMARY KEY CLUSTERED (item_type_id),  
CONSTRAINT item_type_uk UNIQUE(name),    -- each type name should be unique  
)
```

### ***DDL:***

```
create table item_type
(
    item_type_id int not null,
    name varchar(120) not null,
    description varchar(120) not null,
    primary key (item_type_id)
);
```

### ***Results:***

```
SELECT * FROM item_type;
```



ITEM_TYPE_ID	NAME	DESCRIPTION
1	Drinks	Thirst quenchers! served ice cold.
2	Desserts	Sinfully sweet.
3	Pasta	Traditional Italian food.
4	Salads	Organically grown in our very own garden.
5	Burgers	Hand pressed patty served with tomatoes, lettuce and red onion.

5 rows returned in 0.08 seconds [Download](#)



### ***Entity: status***

The entity “status” represents an order's various statuses, such as order received, preparing, etc.

### ***Normalization:***

BCNF - The entity status is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

status

```
(  
  status_id int NOT NULL,      -- uniquely identifies each status  
  name varchar(120) NOT NULL,  -- the name of the status which cannot be more than 120  
                                characters in length and required  
  CONSTRAINT pk_status_id PRIMARY KEY CLUSTERED (status_id),  
  CONSTRAINT status_uk UNIQUE(name), -- each status should be unique  
)
```

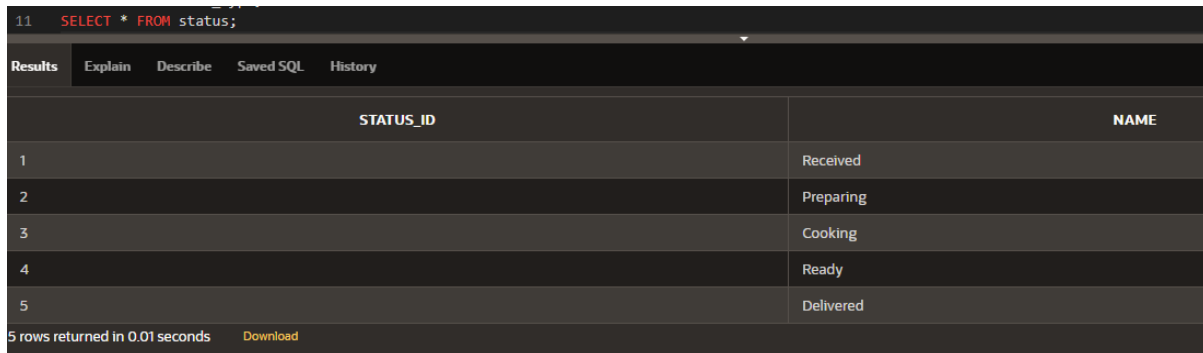
### ***DDL:***

create table status

```
(status_id int not null,  
  name varchar(120) not null,  
  primary key (status_id)  
);
```

### ***Results:***

SELECT \* FROM status;



STATUS_ID	NAME
1	Received
2	Preparing
3	Cooking
4	Ready
5	Delivered

5 rows returned in 0.01 seconds [Download](#)

### ***Entity: payment\_method***

The entity “payment\_method” represents how a customer can pay for an order, such as a credit card, PayPal, etc.

### ***Normalization:***

BCNF - The entity payment\_method is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

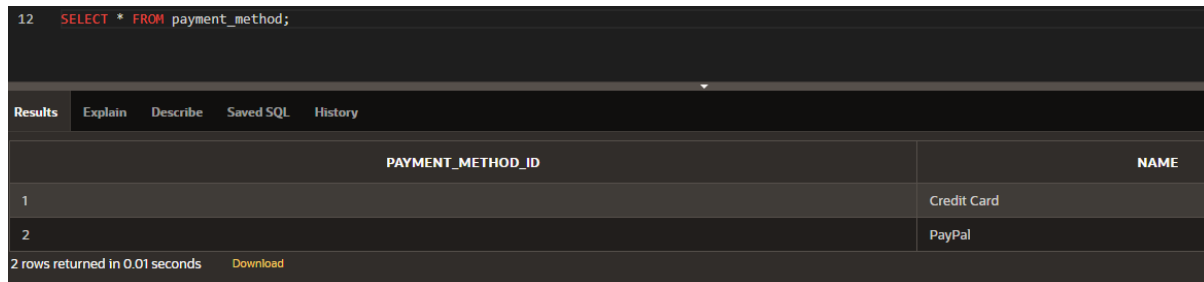
```
payment_method
(  
  payment_method_id int NOT NULL,      -- uniquely identifies each payment method  
  name varchar(120) NOT NULL,         -- the name of the payment method which cannot be more  
                                      -- than 120 characters in length and required  
  CONSTRAINT pk_payment_method_id PRIMARY KEY CLUSTERED (payment_method_id),  
  CONSTRAINT payment_method_uk UNIQUE(name), -- each payment method name should  
                                      -- be unique  
)
```

**DDL:**

```
create table payment_method
(
  payment_method_id int not null,
  name varchar(100) not null,
  primary key (payment_method_id)
);
```

**Results:**

```
SELECT * FROM payment_method;
```



The screenshot shows a SQL query execution interface. At the top, the query `SELECT * FROM payment_method;` is entered. Below the query, there are tabs for **Results**, **Explain**, **Describe**, **Saved SQL**, and **History**. The **Results** tab is selected, displaying a table with two columns: **PAYMENT\_METHOD\_ID** and **NAME**. The table contains two rows: one with **PAYMENT\_METHOD\_ID** 1 and **NAME** 'Credit Card', and another with **PAYMENT\_METHOD\_ID** 2 and **NAME** 'PayPal'. At the bottom, it states '2 rows returned in 0.01 seconds' and provides a **Download** link.

PAYMENT_METHOD_ID	NAME
1	Credit Card
2	PayPal

2 rows returned in 0.01 seconds [Download](#)

### ***Entity: order***

The entity “order” represents the orders a customer can make for food online.

### ***Normalization:***

BCNF - The entity order is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since for all functional dependencies,  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

```
order
(
order_id int NOT NULL,      -- uniquely identifies each order
date_ordered timestamp NOT NULL,      -- the required date and time the order was made
delivery_method_id int NOT NULL,      -- the required method of delivery chosen for the
order
notes varchar(300) NULL,      -- any optional notes the customer may have on the order for the
chef which cannot be longer than 300 characters in length
status_id int NOT NULL,      -- the current status of the order which is required
customer_id int NOT NULL,      -- the order belongs to a customer, which is required
CONSTRAINT pk_order_id PRIMARY KEY CLUSTERED (order_id),
CONSTRAINT fk_order_delivery_method_id FOREIGN KEY (delivery_method_id)
REFERENCES [delivery_method](delivery_method_id),
CONSTRAINT fk_order_status_id FOREIGN KEY (status_id) REFERENCES
[status](status_id),
CONSTRAINT fk_order_customer_id FOREIGN KEY (customer_id) REFERENCES
[customer](customer_id)
)
```

***DDL:***

```
create table "order"
(
    order_id int not null,
    date_ordered timestamp not null,
    delivery_method_id int not null,
    notes varchar(300) null,
    status_id int not null,
    customer_id int not null,
    primary key (order_id),
    foreign key (delivery_method_id) references delivery_method (delivery_method_id)
        on delete set null,
    foreign key (status_id) references status (status_id)
        on delete set null,
    foreign key (customer_id) references customer (customer_id)
        on delete set null
);
```

### Results:

```
SELECT * FROM "order";
```

1 SELECT * FROM "order";					
Results Explain Describe Saved SQL History					
ORDER_ID	DATE_ORDERED	DELIVERY_METHOD_ID	NOTES	STATUS_ID	CUSTOMER_ID
1	21-NOV-21 03.44.31.000000 PM	2	-	5	1
2	23-NOV-21 09:10.22.000000 AM	2	No pepper please.	5	2
3	02-DEC-21 08.01.11.000000 PM	2	-	5	1
4	13-DEC-21 11.33.17.000000 AM	1	-	5	3
5	28-DEC-21 02.01.00.000000 PM	2	-	5	1
6	03-JAN-22 03.44.31.000000 PM	2	-	5	1
7	05-JAN-22 09:10.22.000000 AM	2	No pepper	5	2
8	15-JAN-22 08.01.11.000000 PM	2	-	5	1
9	25-JAN-22 11.33.17.000000 AM	1	-	5	3
10	02-FEB-22 07.01.20.000000 AM	1	Extra cream	5	5
11	03-FEB-22 07:15.31.000000 AM	1	Extra cream	5	5
12	10-FEB-22 09:10.22.000000 AM	2	Alot of onions	5	8
13	23-FEB-22 07.30.17.000000 AM	1	Extra cream and sugar	2	8
14	23-FEB-22 07.33.17.000000 AM	1	Extra cream	1	5
15	23-FEB-22 07.41.25.000000 AM	2	-	1	6
15 rows returned in 0.13 seconds Download					

***Entity: item***

The entity “item” represents individual food items the customer can order.

***Normalization:***

3NF - The entity item is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. Finally, it is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime.

***Schema:***

```
item
(
  item_id int NOT NULL,    -- uniquely identifies each food item
  item_type_id int NOT NULL,    -- each item belongs to a type and is required
  name varchar(120) NOT NULL,    -- the name of the item which cannot be longer than 120
  -- characters in length
  price number(10,4) NOT NULL,    -- each item must have a cost
  CONSTRAINT pk_item_id PRIMARY KEY CLUSTERED (item_id),
  CONSTRAINT item_uk UNIQUE(name),    -- each item name should be unique
  CONSTRAINT fk_item_item_type_id FOREIGN KEY (item_type_id) REFERENCES
  [item_type](item_type_id)
)
```



### ***DDL:***

create table item

```
(item_id      int not null,  
 item_type_id int not null,  
  name        varchar(120) not null,  
  price       number(10,4) not null,  
  primary key (item_id),  
  foreign key (item_type_id) references item_type (item_type_id)  
    on delete cascade  
);
```

### ***Results:***

SELECT \* FROM item;

1SELECT \* FROM item;

Results

ExplainDescribeSaved SQLHistory

ITEM_ID	ITEM_TYPE_ID	NAME	PRICE
1	1	Water	2
2	1	Orange Juice	2
3	2	Chocolate Fudge Cake	5.45
4	2	Strawberry Cheesecake	6.95
5	3	Lasagna	11.99
6	3	Spaghetti	8.99
7	4	Broccoli	2.79
8	4	Fresh Fruits	2.79
9	5	Beef Burger	10
10	5	Chicken Burger	9.5
11	1	Ice Chocolate Espresso	4.99
12	1	Ice Shaken Espresso	3.99

12 rows returned in 0.14 seconds

Download

***Entity: order\_item***

The entity (bridge) “order\_item” allows an order to have many items in it and an item to be a part of many orders.

***Normalization:***

BCNF - The entity order\_item is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since for all functional dependencies,  $A \rightarrow B$ , and A is a super key for all functional dependencies.

***Schema:***

```
order_item
(
order_id int NOT NULL, -- uniquely identifies which order and is part of the primary key
item_id int NOT NULL,  -- uniquely identifies which item and is part of the primary key
quantity int NOT NULL, -- the amount of the items needed which is required
CONSTRAINT pk_order_item_id PRIMARY KEY CLUSTERED (order_id, item_id),
CONSTRAINT fk_order_item_order_id FOREIGN KEY (order_id) REFERENCES
[order](order_id),
CONSTRAINT fk_order_item_item_id FOREIGN KEY (item_id) REFERENCES
[item](item_id)
)
```

***DDL:***

```
create table order_item
(
    order_id    int not null,
    item_id     int not null,
    quantity    int not null,
    foreign key (order_id) references "order" (order_id)
        on delete cascade,
    foreign key (item_id) references item (item_id)
        on delete cascade
);
```

***Results:***

```
SELECT * FROM order_item;
```

1 SELECT \* FROM order\_item;

Results

Explain

Describe

Saved SQL

History

ORDER_ID	ITEM_ID	QUANTITY
1	2	2
1	9	2
1	4	2
2	5	1
3	1	2
3	8	1
4	5	1
5	2	3
5	9	2
5	10	1
6	1	1
7	5	1
8	7	2
8	10	2
9	8	1
10	11	4
11	11	4
12	9	1
13	12	1
14	11	3
15	5	2

21 rows returned in 0.12 seconds

Download

### ***Entity: payment***

The entity “payment” represents the payment details for an order.

### ***Normalization:***

3NF - The entity payment is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. Finally, it is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime.

### ***Schema:***

payment

(

```
payment_id int NOT NULL,          -- uniquely identifies a payment
order_id int NOT NULL,           -- the payment must belong to an order
total_amount number(10,4) NOT NULL, -- the total paid for the order with precision
date_paid timestamp NOT NULL,    -- the date and time the payment was made, which is
required
payment_method_id int NOT NULL,  -- the required type of payment method used for this
payment
CONSTRAINT pk_payment_id PRIMARY KEY CLUSTERED (payment_id),
CONSTRAINT fk_payment_order_id FOREIGN KEY (order_id) REFERENCES
[order](order_id),
CONSTRAINT fk_payment_payment_method_id FOREIGN KEY (payment_method_id)
REFERENCES [payment_method](payment_method_id)
)
```

### ***DDL:***

create table payment

```
(payment_id int not null,  
order_id int not null,  
total_amount number(10,4) not null,  
date_paid timestamp not null,  
payment_method_id int not null,  
primary key (payment_id),  
foreign key (order_id) references "order" (order_id)  
on delete set null,  
foreign key (payment_method_id) references payment_method (payment_method_id)  
on delete set null  
);
```

### ***Results:***

SELECT \* FROM payment;

1 SELECT * FROM payment;				
Results Explain Describe Saved SQL History				
PAYMENT_ID	ORDER_ID	TOTAL_AMOUNT	DATE_PAID	PAYMENT_METHOD_ID
1	1	379	21-NOV-21 03:50:00.000000 PM	1
2	2	11.99	23-NOV-21 09:12:10.000000 AM	2
3	3	6.79	12-DEC-21 08:05:15.000000 PM	1
4	4	11.99	13-DEC-21 11:34:10.000000 AM	2
5	5	35.5	28-DEC-21 02:15:51.000000 PM	2
6	6	2	03-JAN-22 03:45:10.000000 PM	2
7	7	11.99	05-JAN-22 09:11:10.000000 AM	2
8	8	24.58	15-JAN-22 08:11:23.000000 PM	2
9	9	2.79	15-JAN-22 11:35:41.000000 AM	1
10	10	19.96	02-FEB-22 07:05:23.000000 AM	2
11	11	19.96	03-FEB-22 07:18:11.000000 AM	2
12	12	10	10-FEB-22 09:11:56.000000 AM	1
13	13	3.99	23-FEB-22 07:35:11.000000 AM	2
14	14	14.97	23-FEB-22 07:40:48.000000 AM	2
15	15	23.98	23-FEB-22 07:50:49.000000 AM	2
15 rows returned in 0.13 seconds Download				

### ***Entity: customer***

The entity “customer” represents the details of a customer.

### ***Normalization:***

BCNF - The entity customer is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

```
customer
(
customer_id int NOT NULL,          -- uniquely identifies each customer
first_name varchar(120) NOT NULL,  -- the first name of the customer, which cannot be longer
                                     than 120 characters in length and is required
middle_name varchar(120) NULL,     -- the middle name of the customer, if any
last_name varchar(120) NOT NULL,   -- the last name of the customer, which cannot be
                                     longer than 120 characters in length and is required
phone_num varchar(50) NOT NULL,    -- the customer phone number for contact, which is
                                     required and has a variable length of up to 50 characters
CONSTRAINT pk_customer_id PRIMARY KEY CLUSTERED (customer_id)
)
```

### ***DDL:***

create table customer

```
(customer_id      int not null,  
 first_name       varchar(120) not null,  
 middle_name      varchar(120) null,  
 last_name        varchar(120) not null,  
 phone_number     varchar(15) not null,  
 primary key (customer_id)  
);
```

### ***Results:***

SELECT \* FROM customer;

1

SELECT \* FROM customer;

Results

Explain

Describe

Saved SQL

History

CUSTOMER_ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	PHONE_NUMBER
1	John	-	Vasq	8654352112
2	Jessica	-	Jepardies	8654352312
3	Antony	Chris	Packard	7543452712
4	Kevin	Charles	Smith	9178569856
5	Cassie	-	Andrews	9185697569
6	Mark	-	Winski	3472203720
7	Lola	-	Frey	8172420911
8	Jadyn	-	Greene	9548876834
9	Abigail	-	Lloyd	8602580399
10	Amy	-	Lowe	5408406838

10 rows returned in 0.13 seconds

Download



### ***Entity: address***

The entity “address” represents the address details for a customer.

### ***Normalization:***

2NF - The entity address is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It violates 3NF since the dependency zip\_code -> city, state\_province where zip\_code is non-prime, making it a transitive dependency.

### ***Schema:***

address

```
(  
address_id int NOT NULL,           -- uniquely identifies each address  
address_line1 varchar(250) NOT NULL, -- the first line of the address, such as street,  
which is required and has a variable length of up to 250 characters  
address_line2 varchar(250) NULL,  -- the second line of the address, if any, and has a variable  
length of up to 250 characters  
country varchar(100) NOT NULL,    -- the country the customer lives in, which is  
required and has a variable length of up to 100 characters  
city varchar(100) NOT NULL,      -- the city the customer lives in, which is required and has a  
variable length of up to 100 characters  
state_province varchar(100) NOT NULL, -- the state the customer lives in, which is  
required and has a variable length of up to 100 characters  
zip_code varchar(10) NOT NULL,    -- the zip code for the address which is required and  
has a variable length of up to 10 characters  
CONSTRAINT pk_address_id PRIMARY KEY CLUSTERED (address_id)  
)
```

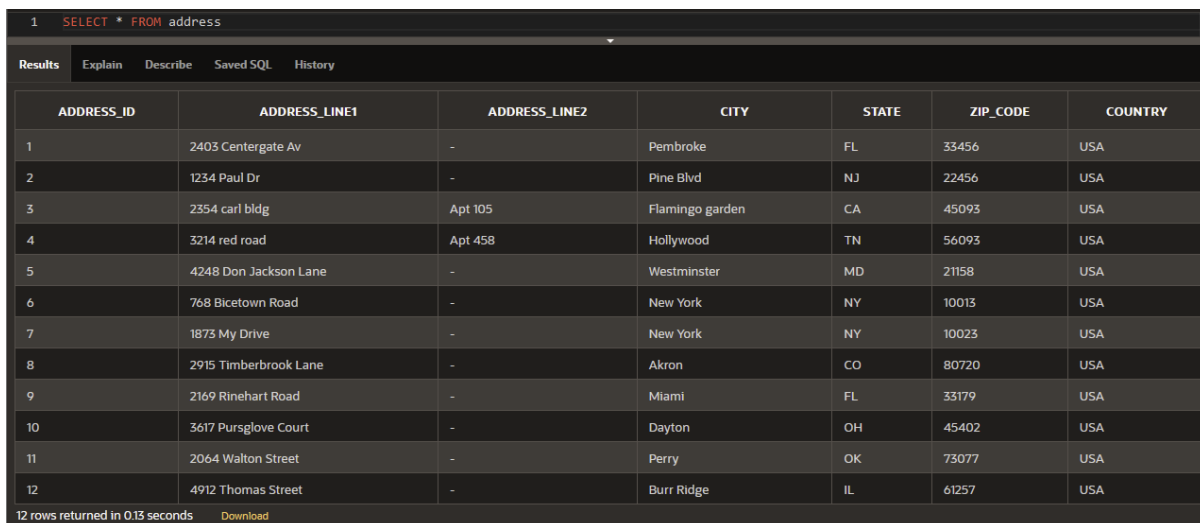
### ***DDL:***

create table address

```
(address_id          int not null,
 address_line1       varchar(250) not null,
 address_line2       varchar(250) null,
 city                varchar(100) not null,
 State               varchar(100) not null,
 zip_code            varchar(7) not null,
 country             varchar(100) not null,
 primary key (address_id)
);
```

### ***Results:***

SELECT \* FROM address;



ADDRESS_ID	ADDRESS_LINE1	ADDRESS_LINE2	CITY	STATE	ZIP_CODE	COUNTRY
1	2403 Centergate Av	-	Pembroke	FL	33456	USA
2	1234 Paul Dr	-	Pine Blvd	NJ	22456	USA
3	2354 carl bldg	Apt 105	Flamingo garden	CA	45093	USA
4	3214 red road	Apt 458	Hollywood	TN	56093	USA
5	4248 Don Jackson Lane	-	Westminster	MD	21158	USA
6	768 Bictown Road	-	New York	NY	10013	USA
7	1873 My Drive	-	New York	NY	10023	USA
8	2915 Timberbrook Lane	-	Akron	CO	80720	USA
9	2169 Rinehart Road	-	Miami	FL	33179	USA
10	3617 Pursglove Court	-	Dayton	OH	45402	USA
11	2064 Walton Street	-	Perry	OK	73077	USA
12	4912 Thomas Street	-	Burr Ridge	IL	61257	USA

12 rows returned in 0.13 seconds [Download](#)

### ***Entity: customer\_address***

The entity “customer\_address” is the intersection table between the customer and address entities.

### ***Normalization:***

BCNF - The entity customer\_address is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. It is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime. Finally, it is in BCNF since  $A \rightarrow B$ , and A is a super key for all functional dependencies.

### ***Schema:***

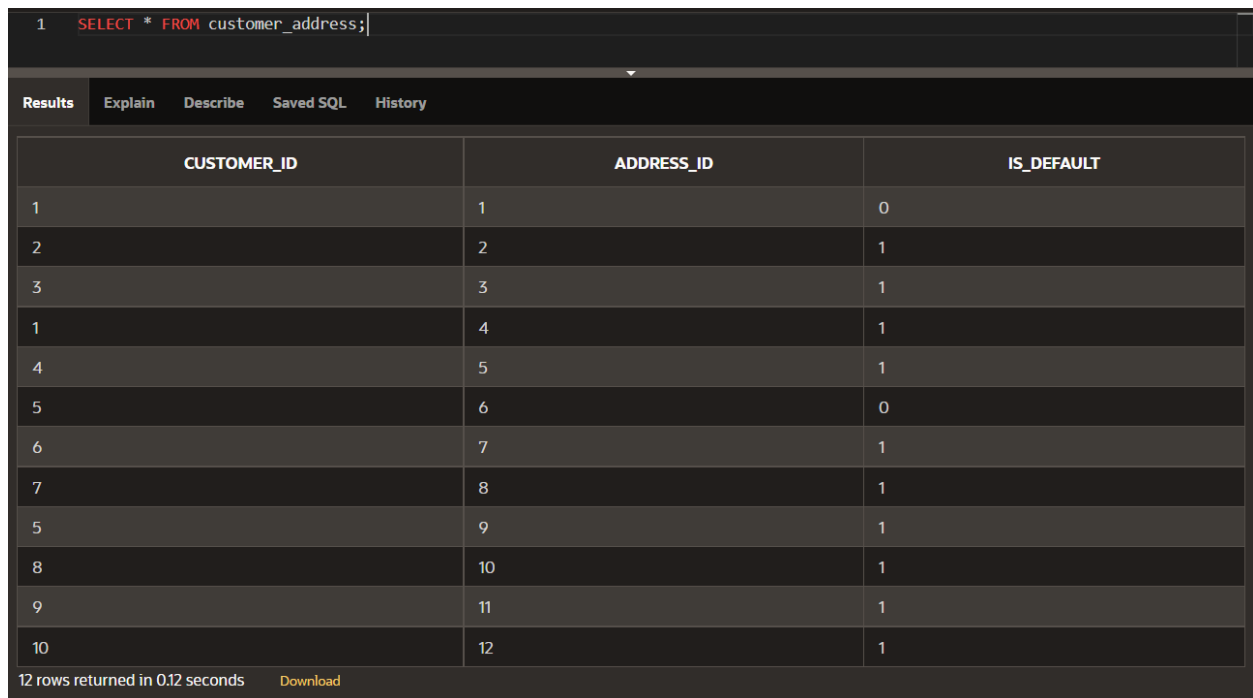
```
customer_address
(
customer_id int,    -- uniquely identifies which customer and part of the primary key
address_id int,    -- uniquely identifies which address and part of the primary key
is_default number(1) null default 0, -- The number that determines if an address for a customer
is selected by default. Defaults to 0
CONSTRAINT pk_customer_address_id PRIMARY KEY CLUSTERED (customer_id,
address_id)
CONSTRAINT fk_customer_address_customer_id FOREIGN KEY (customer_id)
REFERENCES [customer](customer_id)
CONSTRAINT fk_customer_address_address_id FOREIGN KEY (address_id) REFERENCES
[address](address_id)
)
```

### ***DDL:***

```
create table customer_address
(
  customer_id int,
  address_id int,
  is_default number(1) default 0,
  foreign key (customer_id) references customer (customer_id),
  foreign key (address_id) references address (address_id)
);
```

### ***Results:***

```
SELECT * FROM customer_address;
```



The screenshot shows a SQL query execution interface. At the top, a text box contains the query: `1 SELECT * FROM customer_address;`. Below the text box is a tabbed interface with four tabs: **Results**, **Explain**, **Describe**, **Saved SQL**, and **History**. The **Results** tab is selected, displaying a table with three columns: **CUSTOMER\_ID**, **ADDRESS\_ID**, and **IS\_DEFAULT**. The table contains 12 rows of data. Below the table, a status bar indicates "12 rows returned in 0.12 seconds" and includes a **Download** button.

CUSTOMER_ID	ADDRESS_ID	IS_DEFAULT
1	1	0
2	2	1
3	3	1
1	4	1
4	5	1
5	6	0
6	7	1
7	8	1
5	9	1
8	10	1
9	11	1
10	12	1

12 rows returned in 0.12 seconds [Download](#)

***Entity: user\_account***

The entity “user\_account” represents a user in the system.

***Normalization:***

3NF - The entity user\_account is in 1NF since all attributes are single-valued, and there are no duplicate attributes or tuples. It is in 2NF because all attributes depend on the whole key. Finally, it is in 3NF because there are no transitive dependencies such that  $A \rightarrow B$  where A and B are non-prime.

***Schema:***

```
user_account
(
  user_id int, -- uniquely identifies a user
  customer_id int not null, -- the customer is a user
  username varchar(120) not null, -- the user's login username, which cannot be longer than 120
  characters in length and is required
  password varchar(120) not null, -- the login password (hashed and salted), which is required
  and has a variable length of up to 120 characters
  email varchar(120) not null, -- the user's email address which is required and has a variable
  length of up to 120 characters
  CONSTRAINT pk_user_id PRIMARY KEY CLUSTERED (user_id),
  CONSTRAINT fk_user_customer_id FOREIGN KEY (customer_id) REFERENCES
  [customer](customer_id)
)
```

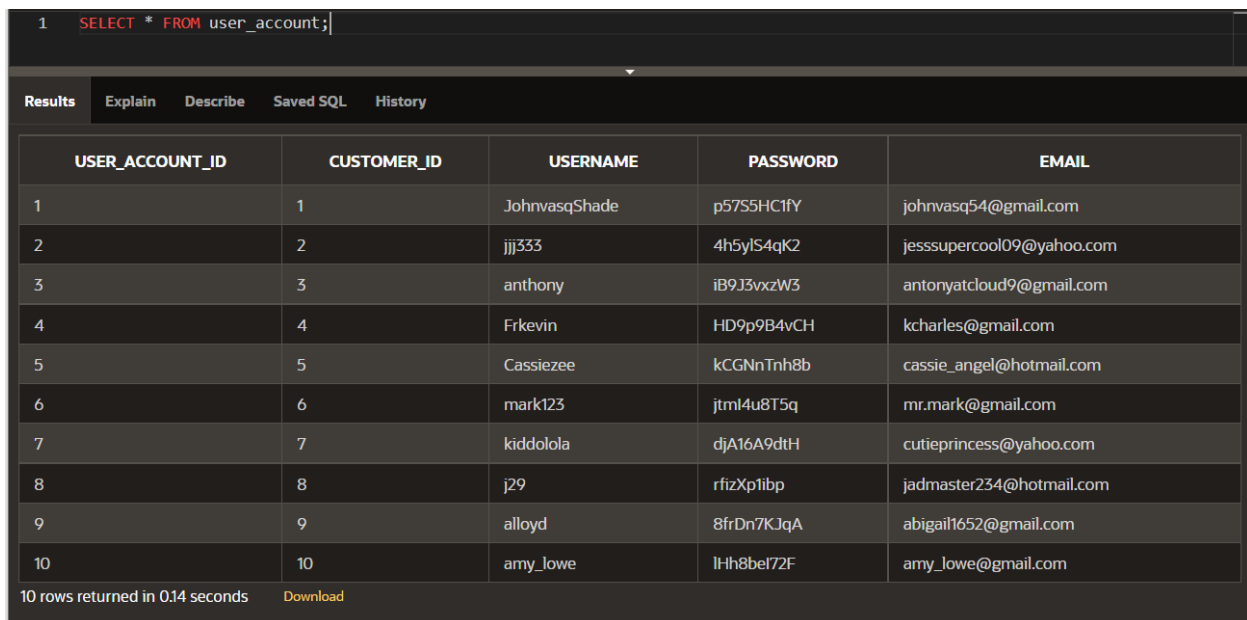
### DDL:

create table user\_account

```
(user_account_id    int not null,  
customer_id        int not null,  
username            varchar(20) not null,  
password            varchar(20) not null,  
email               varchar(120) not null,  
primary key (user_account_id),  
foreign key (customer_id) references customer (customer_id)  
);
```

### Results:

SELECT \* FROM user\_account;



The screenshot shows a database query results interface. At the top, the SQL query 'SELECT \* FROM user\_account;' is entered. Below the query, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is selected, displaying a table with 10 rows of data. The table has five columns: USER\_ACCOUNT\_ID, CUSTOMER\_ID, USERNAME, PASSWORD, and EMAIL. The data is as follows:

USER_ACCOUNT_ID	CUSTOMER_ID	USERNAME	PASSWORD	EMAIL
1	1	JohnvasqShade	p57S5HC1fY	johnvasq54@gmail.com
2	2	jjj333	4h5ylS4qK2	jesssupercool09@yahoo.com
3	3	anthony	iB9J3vxzW3	antonyatcloud9@gmail.com
4	4	Frkevin	HD9p9B4vCH	kcharles@gmail.com
5	5	Cassiezee	kCGNnTnh8b	cassie_angel@hotmail.com
6	6	mark123	jtml4u8T5q	mr.mark@gmail.com
7	7	kiddolola	djA16A9dtH	cutieprincess@yahoo.com
8	8	j29	rfizXp1ibp	jadmaster234@hotmail.com
9	9	alloyd	8frDn7KJqA	abigail1652@gmail.com
10	10	amy_lowe	lhH8bel72F	amy_lowe@gmail.com

At the bottom of the interface, it states '10 rows returned in 0.14 seconds' and provides a 'Download' link.

# Queries

## Query 1

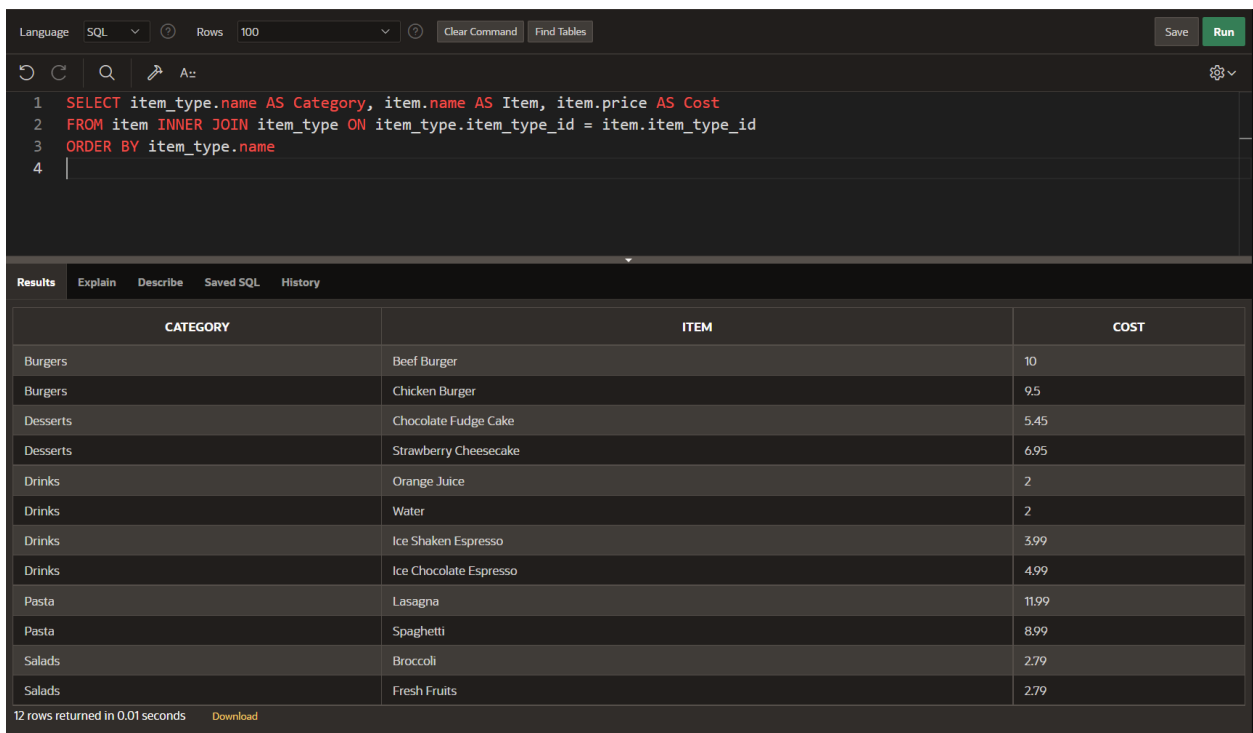
A list of all items offered, the category (item type) it belongs to, and their cost. This is useful for displaying the latest menu items to the users.

### Syntax:

```
SELECT item_type.name AS Category, item.name AS Item, item.price AS Cost
```

```
FROM item INNER JOIN item_type ON item_type.item_type_id = item.item_type_id
```

```
ORDER BY item_type.name
```



The screenshot shows a SQL query editor interface. At the top, there's a toolbar with 'Language' set to 'SQL', 'Rows' set to '100', and buttons for 'Clear Command' and 'Find Tables'. Below the toolbar is a text area containing the SQL query. The query is as follows:

```
1 SELECT item_type.name AS Category, item.name AS Item, item.price AS Cost
2 FROM item INNER JOIN item_type ON item_type.item_type_id = item.item_type_id
3 ORDER BY item_type.name
4 |
```

Below the query editor is a 'Results' section. It has tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is active, showing a table with 3 columns: 'CATEGORY', 'ITEM', and 'COST'. The table contains 12 rows of data. At the bottom of the results section, it says '12 rows returned in 0.01 seconds' and has a 'Download' button.

CATEGORY	ITEM	COST
Burgers	Beef Burger	10
Burgers	Chicken Burger	9.5
Desserts	Chocolate Fudge Cake	5.45
Desserts	Strawberry Cheesecake	6.95
Drinks	Orange Juice	2
Drinks	Water	2
Drinks	Ice Shaken Espresso	3.99
Drinks	Ice Chocolate Espresso	4.99
Pasta	Lasagna	11.99
Pasta	Spaghetti	8.99
Salads	Broccoli	2.79
Salads	Fresh Fruits	2.79

## Query 2

A list of received orders (status of received) and special instructions (notes). This is useful for chefs to know which special order they should begin preparing first.

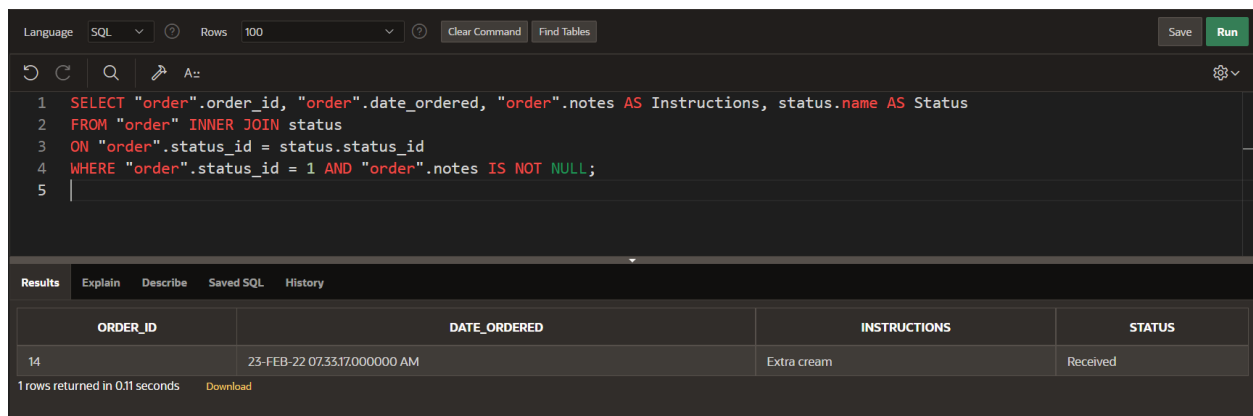
### **Syntax:**

```
SELECT "order".order_id, "order".date_ordered, "order".notes AS Instructions, status.name AS Status
```

```
FROM "order" INNER JOIN status
```

```
ON "order".status_id = status.status_id
```

```
WHERE "order".status_id = 1 AND "order".notes IS NOT NULL;
```



The screenshot shows a SQL IDE interface. The top bar includes a language dropdown set to 'SQL', a 'Rows' count of 100, and buttons for 'Clear Command' and 'Find Tables'. Below the toolbar, the SQL query is entered in a text area. The query is as follows:

```
1 SELECT "order".order_id, "order".date_ordered, "order".notes AS Instructions, status.name AS Status
2 FROM "order" INNER JOIN status
3 ON "order".status_id = status.status_id
4 WHERE "order".status_id = 1 AND "order".notes IS NOT NULL;
5
```

Below the query editor, the 'Results' tab is active, displaying a table with the following data:

ORDER_ID	DATE_ORDERED	INSTRUCTIONS	STATUS
14	23-FEB-22 07:33:17.000000 AM	Extra cream	Received

At the bottom of the results section, it states '1 rows returned in 0.11 seconds' and provides a 'Download' link.

## Query 3

The total income made per year. This is useful for making business decisions.

### **Syntax:**

```
SELECT TO_CHAR(date_paid,'YYYY') AS Year, SUM(total_amount) AS Income
```

```
FROM payment
```

```
GROUP BY TO_CHAR(date_paid,'YYYY')
```



LanguageSQLRows100Clear CommandFind TablesSaveRun

## Query 4

Items types (categories) where the average cost of its items is over \$5.00. This is useful for making business decisions.

### Syntax:

WITH dataset AS (

SELECT item\_type\_id, AVG(price) AS Average\_Cost

FROM item

GROUP BY item\_type\_id

HAVING AVG(price) > 5.00

)

SELECT item\_type.name AS Category , dataset.Average\_Cost

FROM dataset INNER JOIN item\_type ON dataset.item\_type\_id = item\_type.item\_type\_id

Language: SQL Rows: 100 Clear Command Find Tables Save Run

```

1 WITH dataset AS (
2   SELECT item_type_id, AVG(price) AS Average_Cost
3   FROM item
4   GROUP BY item_type_id
5   HAVING AVG(price) > 5.00
6 )
7 SELECT item_type.name AS Category , dataset.Average_Cost
8 FROM dataset INNER JOIN item_type ON dataset.item_type_id = item_type.item_type_id
9 |

```

Results Explain Describe Saved SQL History

CATEGORY	AVERAGE_COST
Desserts	6.2
Burgers	9.75
Pasta	10.49

3 rows returned in 0.01 seconds Download

## Query 5

The number of orders made yearly. This is useful for making business decisions.

### Syntax:

```
SELECT TO_CHAR("order".date_ordered,'YYYY') AS Year, COUNT("order".order_id)
Num_orders
```

```
FROM "order"
```

```
GROUP BY TO_CHAR("order".date_ordered,'YYYY')
```

```
ORDER BY TO_CHAR("order".date_ordered,'YYYY') desc
```

Language: SQL Rows: 100 Clear Command Find Tables Save Run

```

1 SELECT TO_CHAR("order".date_ordered,'YYYY') AS Year, COUNT("order".order_id) Num_orders
2 FROM "order"
3 GROUP BY TO_CHAR("order".date_ordered,'YYYY')
4 ORDER BY TO_CHAR("order".date_ordered,'YYYY') desc
5 |

```

Results Explain Describe Saved SQL History

YEAR	NUM_ORDERS
2022	10
2021	5

2 rows returned in 0.01 seconds Download

### **Query 6**

Customer of the month! This is useful for customer appreciation day.

#### **Syntax:**

WITH dataset AS (

    SELECT year, month, customer\_name, SUM(total\_amount) AS total

    FROM (

        SELECT TO\_CHAR(payment.date\_paid,'YYYY') AS Year,  
        TO\_CHAR(payment.date\_paid,'MONTH') AS Month,

        CONCAT(CONCAT(customer.first\_name,' '),customer.last\_name) AS  
Customer\_Name,

        payment.total\_amount

    FROM customer INNER JOIN "order" ON customer.customer\_id = "order".customer\_id

        INNER JOIN payment ON payment.order\_id = "order".order\_id

    )

GROUP BY year, month, customer\_name

ORDER BY Year desc, month

)

SELECT year, month, customer\_name, total

FROM dataset

WHERE (year, month, total) IN (

    SELECT year, month, MAX(total)

    FROM dataset

    GROUP BY year, month

)

Language	SQL	Rows	100	Clear Command	Find Tables	Save	Run
<pre> 1 WITH dataset AS ( 2   SELECT year, month, customer_name, SUM(total_amount) AS total 3   FROM ( 4     SELECT TO_CHAR(payment.date_paid,'YYYY') AS Year, TO_CHAR(payment.date_paid,'MONTH') AS Month, 5            CONCAT(CONCAT(customer.first_name,' '),customer.last_name) AS Customer_Name, 6            payment.total_amount 7     FROM customer INNER JOIN "order" ON customer.customer_id = "order".customer_id 8            INNER JOIN payment ON payment.order_id = "order".order_id 9   ) 10  GROUP BY year, month, customer_name 11  ORDER BY Year desc, month 12 ) 13 14 SELECT year, month, customer_name, total 15 FROM dataset 16 WHERE (year, month, total) IN ( 17   SELECT year, month, MAX(total) 18   FROM dataset 19   GROUP BY year, month 20 ) </pre>							
Results	Explain	Describe	Saved SQL	History			
YEAR	MONTH	CUSTOMER_NAME	TOTAL				
2022	FEBRUARY	Cassie Andrews	54.89				
2022	JANUARY	John Vasq	26.58				
2021	DECEMBER	John Vasq	42.29				
2021	NOVEMBER	John Vasq	37.9				
4 rows returned in 0.08 seconds				Download			

## Query 7

Total income per month for a year. Good base for other business aggregations

### Syntax:

SELECT

TO\_CHAR(date\_paid, 'MONTH') AS "Month",

SUM(total\_amount) AS Income

FROM payment

WHERE EXTRACT(YEAR FROM date\_paid) = 2021

GROUP BY TO\_CHAR(date\_paid, 'MONTH')

ORDER BY TO\_DATE(TO\_CHAR(date\_paid, 'MONTH'), 'MONTH')

1	SELECT
2	TO_CHAR(date_paid, 'MONTH') AS "Month",
3	SUM(total_amount) AS Income
4	FROM payment
5	WHERE EXTRACT(YEAR FROM date_paid) = 2021
6	GROUP BY TO_CHAR(date_paid, 'MONTH')
7	ORDER BY TO_DATE(TO_CHAR(date_paid, 'MONTH'), 'MONTH')
Results	Explain Describe Saved SQL History
Month	INCOME
NOVEMBER	49.89
DECEMBER	54.28
2 rows returned in 0.01 seconds	
Download	

### **Query 8**

Top 3 items sold per year. It will help in making product decisions.

#### **Syntax:**

```
WITH item_count_by_year AS (  
    SELECT  
        EXTRACT(YEAR FROM p.date_paid) AS Year,  
        i.name as Item,  
        COUNT(oi.item_id) as Total_Sold  
    FROM payment p  
    JOIN order_item oi ON p.order_id = oi.order_id  
    JOIN item i ON oi.item_id = i.item_id  
    GROUP BY EXTRACT(YEAR FROM date_paid), i.name  
    ORDER BY EXTRACT(YEAR FROM p.date_paid) DESC, COUNT(oi.item_id) DESC  
)  
SELECT  
    Year,  
    Item,  
    Total_Sold  
FROM (  
    SELECT  
        Year,  
        Item,  
        Total_Sold,  
        ROW_NUMBER() OVER (PARTITION BY Year ORDER BY Year DESC, Total_Sold  
DESC) AS Order_Rank  
    FROM item_count_by_year  
)  
WHERE Order_Rank <= 3  
ORDER BY Year DESC, Total_Sold DESC
```

```

1 WITH item_count_by_year AS (
2     SELECT
3         EXTRACT(YEAR FROM p.date_paid) AS Year,
4         i.name as Item,
5         COUNT(oi.item_id) as Total_Sold
6     FROM payment p
7     JOIN order_item oi ON p.order_id = oi.order_id
8     JOIN item i ON oi.item_id = i.item_id
9     GROUP BY EXTRACT(YEAR FROM date_paid), i.name
10    ORDER BY EXTRACT(YEAR FROM p.date_paid) DESC, COUNT(oi.item_id) DESC
11 )
12
13 SELECT
14     Year,
15     Item,
16     Total_Sold
17 FROM (
18     SELECT
19         Year,
20         Item,
21         Total_Sold,
22         ROW_NUMBER() OVER (PARTITION BY Year ORDER BY Year DESC, Total_Sold DESC) AS Order_Rank
23     FROM item_count_by_year
24 )
25 WHERE Order_Rank <= 3
26 ORDER BY Year DESC, Total_Sold DESC

```

Results Explain Describe Saved SQL History

YEAR	ITEM	TOTAL_SOLD
2022	Ice Chocolate Espresso	3
2022	Lasagna	2
2022	Water	1
2021	Lasagna	2
2021	Beef Burger	2
2021	Orange Juice	2

6 rows returned in 0.01 seconds Download

## Query 9

Find the customer first name, last name, phone number, date ordered, quantity ordered, and name of the food ordered using customer, order, order\_item, and item tables. This will be helpful in finding the details of customers and their food ordered.

### Syntax:

SELECT

c.FIRST\_NAME,

LAST\_NAME,

PHONE\_NUMBER,

DATE\_ORDERED,

quantity,

t.name

from

customer c

INNER JOIN "order" o

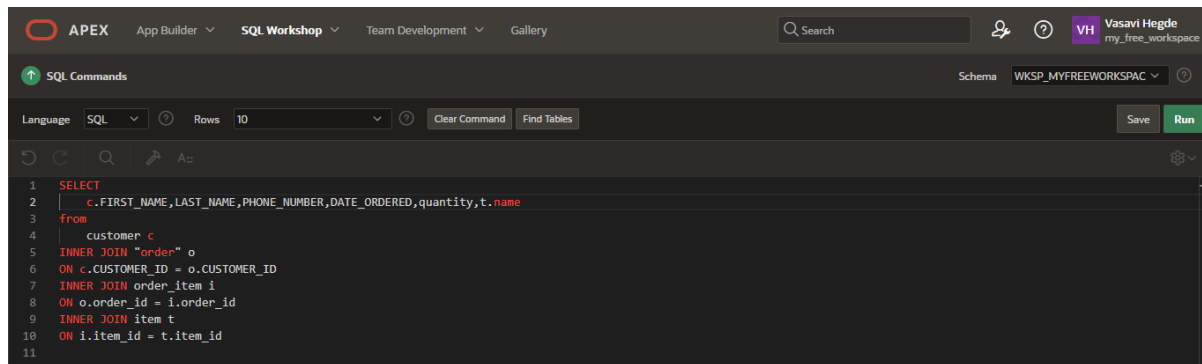
ON c.CUSTOMER\_ID = o.CUSTOMER\_ID

INNER JOIN order\_item i

ON o.order\_id = i.order\_id

INNER JOIN item t

ON i.item\_id = t.item\_id



The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'Vasavi Hegde' are on the right. The 'SQL Commands' panel is active, showing a query with 10 rows. The query is a SELECT statement joining customer, order, order\_item, and item tables. The results are displayed in a table below the query editor.

```
1 SELECT
2 | c.FIRST_NAME, LAST_NAME, PHONE_NUMBER, DATE_ORDERED, quantity, t.name
3 |
4 | from
5 | customer c
6 | INNER JOIN "order" o
7 | ON c.CUSTOMER_ID = o.CUSTOMER_ID
8 | INNER JOIN order_item i
9 | ON o.order_id = i.order_id
10 | INNER JOIN item t
11 | ON i.item_id = t.item_id
```

FIRST_NAME	LAST_NAME	PHONE_NUMBER	DATE_ORDERED	QUANTITY	NAME
John	Vasq	8654352112	02-DEC-21 08.01.11.000000 PM	2	Water
John	Vasq	8654352112	03-JAN-22 03.44.31.000000 PM	1	Water
John	Vasq	8654352112	21-NOV-21 03.44.31.000000 PM	2	Orange Juice
John	Vasq	8654352112	28-DEC-21 02.01.00.000000 PM	3	Orange Juice
John	Vasq	8654352112	21-NOV-21 03.44.31.000000 PM	2	Strawberry Cheesecake
Jessica	Jepardies	8654352312	23-NOV-21 09.10.22.000000 AM	1	Lasagna
Antony	Packard	7543452712	13-DEC-21 11.33.17.000000 AM	1	Lasagna

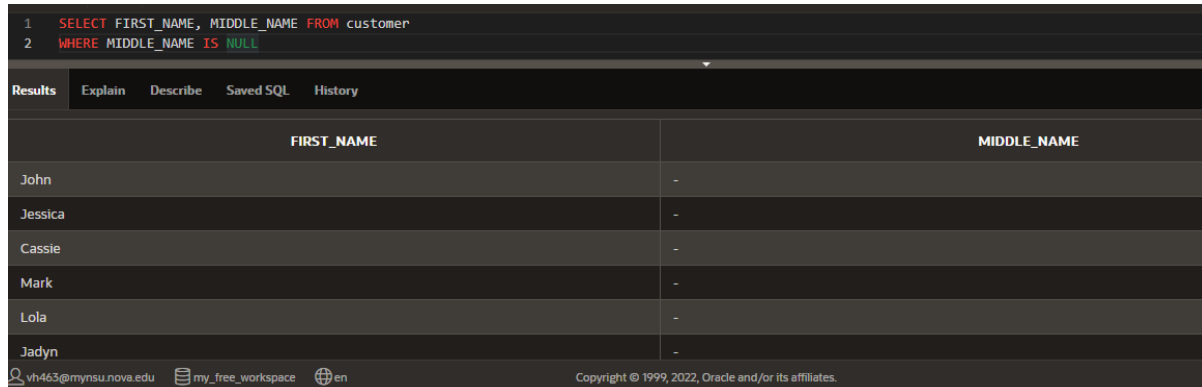
Results	Explain	Describe	Saved SQL	History	Order Details		
					Order Number	Order Description	
Jadyn		Greene	9548876834		10-FEB-22 09.10.22.000000 AM	1	Beef Burger
John		Vasq	8654352112		28-DEC-21 02.01.00.000000 PM	1	Chicken Burger
John		Vasq	8654352112		15-JAN-22 08.01.11.000000 PM	2	Chicken Burger
Cassie		Andrews	9185697569		02-FEB-22 07.01.20.000000 AM	4	Ice Chocolate Espresso
Cassie		Andrews	9185697569		03-FEB-22 07.15.31.000000 AM	4	Ice Chocolate Espresso
Cassie		Andrews	9185697569		23-FEB-22 07.33.17.000000 AM	3	Ice Chocolate Espresso
Jadyn		Greene	9548876834		23-FEB-22 07.30.17.000000 AM	1	Ice Shaken Espresso

## Query 10

Find the name of customers from the table whose middle name is not available. This is to find the customers name correctly as there will orders with same name.

### Syntax:

```
SELECT FIRST_NAME, MIDDLE_NAME FROM customer
WHERE MIDDLE_NAME IS NULL
```



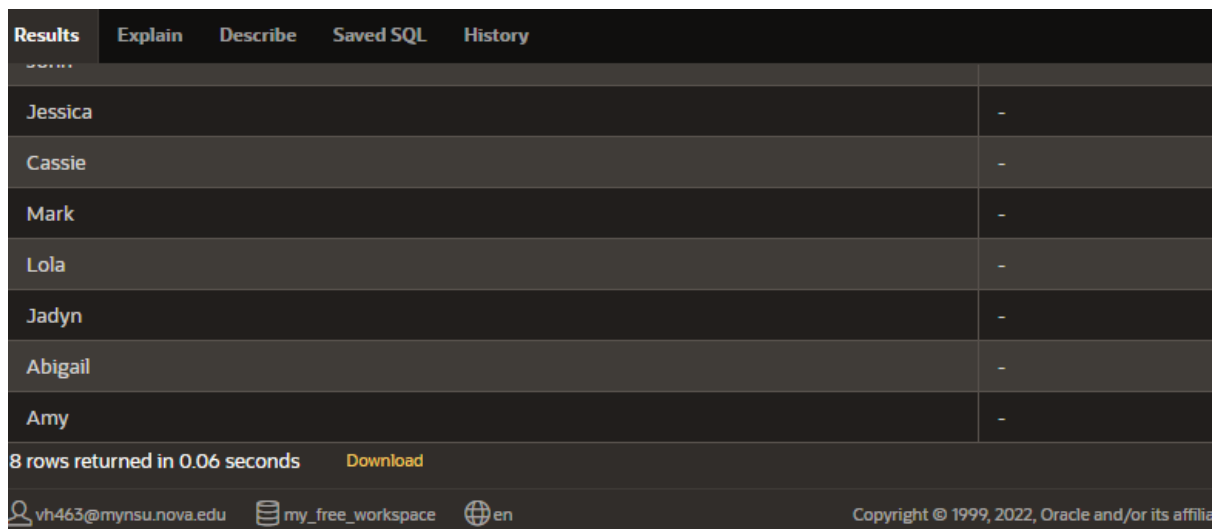
The screenshot shows a SQL query interface with the following SQL code:

```
1 SELECT FIRST_NAME, MIDDLE_NAME FROM customer
2 WHERE MIDDLE_NAME IS NULL
```

The results are displayed in a table with two columns: FIRST\_NAME and MIDDLE\_NAME. The data is as follows:

FIRST_NAME	MIDDLE_NAME
John	-
Jessica	-
Cassie	-
Mark	-
Lola	-
Jadyn	-

The footer of the interface shows the user 'vh463@mymsu.nova.edu', the workspace 'my\_free\_workspace', and the language 'en'. The copyright notice is 'Copyright © 1999, 2022, Oracle and/or its affiliates.'



The screenshot shows a SQL query interface with the following SQL code:

```
SELECT FIRST_NAME, MIDDLE_NAME FROM customer
WHERE MIDDLE_NAME IS NULL
```

The results are displayed in a table with two columns: FIRST\_NAME and MIDDLE\_NAME. The data is as follows:

FIRST_NAME	MIDDLE_NAME
Jessica	-
Cassie	-
Mark	-
Lola	-
Jadyn	-
Abigail	-
Amy	-

The footer of the interface shows the user 'vh463@mymsu.nova.edu', the workspace 'my\_free\_workspace', and the language 'en'. The copyright notice is 'Copyright © 1999, 2022, Oracle and/or its affiliates.'



## Query 11

Find the customer who is having note 'No pepper'. This is to find the food ordered with a special note.

### Syntax:

SELECT

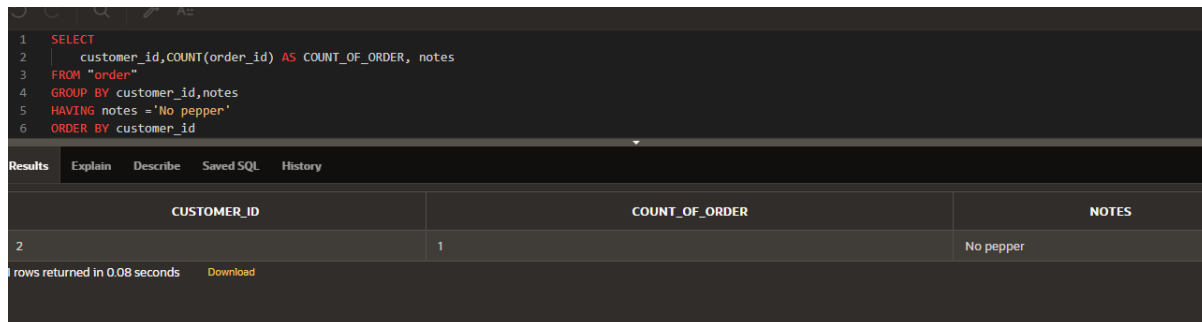
customer\_id,COUNT(order\_id) AS COUNT\_OF\_ORDER, notes

FROM "order"

GROUP BY customer\_id,notes

HAVING notes ='No pepper'

ORDER BY customer\_id



The screenshot shows a SQL query editor with the following query:

```
1 SELECT
2   customer_id,COUNT(order_id) AS COUNT_OF_ORDER, notes
3 FROM "order"
4 GROUP BY customer_id,notes
5 HAVING notes ='No pepper'
6 ORDER BY customer_id
```

Below the query editor, there is a tabbed interface with 'Results' selected. The results are displayed in a table with three columns: CUSTOMER\_ID, COUNT\_OF\_ORDER, and NOTES. The table contains one row with the values 2, 1, and No pepper respectively. At the bottom of the results section, it says '1 rows returned in 0.08 seconds' and there is a 'Download' link.

CUSTOMER_ID	COUNT_OF_ORDER	NOTES
2	1	No pepper

1 rows returned in 0.08 seconds [Download](#)

## **Appendix**

### **Drop Script**

```
drop table customer_address;  
drop table order_item;  
drop table payment;  
drop table address;  
drop table user_account;  
drop table item;  
drop table "order";  
drop table customer;  
drop table delivery_method;  
drop table item_type;  
drop table status;  
drop table payment_method;
```

### **Create Script**

```
create table delivery_method  
    (delivery_method_id int not null,  
     name varchar(120) not null,  
     primary key (delivery_method_id)  
    );  
  
create table item_type  
    (item_type_id int not null,  
     name varchar(120) not null,  
     description varchar(120) not null,  
     primary key (item_type_id)
```

```
);
```

```
create table status
```

```
(status_id int not null,  
  name      varchar(120) not null,  
  primary key (status_id)  
);
```

```
create table payment_method
```

```
(payment_method_id int not null,  
  name              varchar(100) not null,  
  primary key (payment_method_id)  
);
```

```
create table address
```

```
(address_id          int not null,  
  address_line1      varchar(250) not null,  
  address_line2      varchar(250) null,  
  city               varchar(100) not null,  
  State              varchar(100) not null,  
  zip_code           varchar(7) not null,  
  country            varchar(100) not null,  
  primary key (address_id)  
);
```

```
create table customer
```

```
(customer_id          int not null,  
  first_name          varchar(120) not null,  
  middle_name         varchar(120) null,
```

```
last_name          varchar(120) not null,  
phone_number       varchar(15) not null,  
primary key (customer_id)  
);
```

create table customer\_address

```
(customer_id      int,  
 address_id       int,  
is_default number(1) default 0,  
foreign key (customer_id) references customer (customer_id),  
foreign key (address_id) references address (address_id)  
);
```

create table user\_account

```
(user_account_id  int not null,  
 customer_id      int not null,  
 username         varchar(20) not null,  
 password         varchar(20) not null,  
 email           varchar(120) not null,  
primary key (user_account_id),  
foreign key (customer_id) references customer (customer_id)  
);
```

create table item

```
(item_id          int not null,  
item_type_id int not null,  
name             varchar(120) not null,  
price            number(10,4) not null,  
primary key (item_id),
```

```
foreign key (item_type_id) references item_type (item_type_id)
    on delete cascade
);
```

```
create table "order"
```

```
(order_id int not null,
date_ordered          timestamp not null,
delivery_method_id    int not null,
notes                 varchar(300) null,
status_id             int not null,
customer_id           int not null,
primary key (order_id),
foreign key (delivery_method_id) references delivery_method (delivery_method_id)
    on delete set null,
foreign key (status_id) references status (status_id)
    on delete set null,
foreign key (customer_id) references customer (customer_id)
    on delete set null
);
```

```
create table order_item
```

```
(order_id             int not null,
item_id               int not null,
quantity              int not null,
foreign key (order_id) references "order" (order_id)
    on delete cascade,
foreign key (item_id) references item (item_id)
    on delete cascade
```

);

create table payment

```
(payment_id          int not null,
 order_id            int not null,
 total_amount        number(10,4) not null,
 date_paid           timestamp not null,
 payment_method_id    int not null,
 primary key (payment_id),
 foreign key (order_id) references "order" (order_id)
     on delete set null,
 foreign key (payment_method_id) references payment_method (payment_method_id)
     on delete set null
);
```

## **Insert Script**

```
delete from order_item;
delete from payment;
delete from customer_address;
delete from user_account;
delete from "order";
delete from address;
delete from delivery_method;
delete from item_type;
delete from status;
delete from payment_method;
delete from item;
delete from customer;
```

```

insert into delivery_method values (1,'In-Store Pickup');
insert into delivery_method values (2,'Drop-Off Location');
insert into item_type values (1,'Drinks','Thirst quenchers! served ice cold.');
```

```

insert into item_type values (2,'Desserts','Sinfully sweet.');
```

```

insert into item_type values (3,'Pasta','Traditional itallian food.');
```

```

insert into item_type values (4,'Salads','Organically grown in our very own garden.');
```

```

insert into item_type values (5,'Burgers','Hand pressed patty served with tomatoes, lettuce and red
onion.');
```

```

insert into status values (1,'Received');
```

```

insert into status values (2,'Preparing');
```

```

insert into status values (3,'Cooking');
```

```

insert into status values (4,'Ready');
```

```

insert into status values (5,'Delivered');
```

```

insert into payment_method values (1,'Credit Card');
```

```

insert into payment_method values (2,'PayPal');
```

```

insert into item values (1,1,'Water',2);
```

```

insert into item values (2,1,'Orange Juice',2);
```

```

insert into item values (3,2,'Chocolate Fudge Cake',5.45);
```

```

insert into item values (4,2,'Strawberry Cheesecake',6.95);
```

```

insert into item values (5,3,'Lasagna',11.99);
```

```

insert into item values (6,3,'Spaghetti',8.99);
```

```

insert into item values (7,4,'Broccoli',2.79);
```

```

insert into item values (8,4,'Fresh Fruits',2.79);
```

```

insert into item values (9,5,'Beef Burger',10);
```

```

insert into item values (10,5,'Chicken Burger',9.50);
```

```

insert into item values (11,1,'Ice Chocolate Espresso',4.99);
```

```

insert into item values (12,1,'Ice Shaken Espresso',3.99);
```

```

insert into customer values (1,'John',NULL,'Vasq','8654352112');
```

```

insert into customer values (2,'Jessica',NULL,'Jepardies','8654352312');
```

```

insert into customer values (3,'Antony','Chris','Packard','7543452712');
insert into customer values (4,'Kevin','Charles','Smith','9178569856');
insert into customer values (5,'Cassie',NULL,'Andrews','9185697569');
insert into customer values (6,'Mark',NULL,'Winski','3472203720');
insert into customer values (7,'Lola',NULL,'Frey','8172420911');
insert into customer values (8,'Jadyn',NULL,'Greene','9548876834');
insert into customer values (9,'Abigail',NULL,'Lloyd','8602580399');
insert into customer values (10,'Amy',NULL,'Lowe','5408406838');
insert into address values (1,'2403 Centergate Av',NULL,'Pembroke','FL','33456','USA');
insert into address values (2,'1234 Paul Dr',NULL,'Pine Blvd','NJ','22456','USA');
insert into address values (3,'2354 carl bldg','Apt 105','Flamingo garden','CA','45093','USA');
insert into address values (4,'3214 red road','Apt 458','Hollywood','TN','56093','USA');
insert into address values (5,'4248 Don Jackson Lane',NULL,'Westminster','MD','21158','USA');
insert into address values (6,'768 Bicetown Road',NULL,'New York','NY','10013','USA');
insert into address values (7,'1873 My Drive',NULL,'New York','NY','10023','USA');
insert into address values (8,'2915 Timberbrook Lane',NULL,'Akron','CO','80720','USA');
insert into address values (9,'2169 Rinehart Road',NULL,'Miami','FL','33179','USA');
insert into address values (10,'3617 Pursglove Court',NULL,'Dayton','OH','45402','USA');
insert into address values (11,'2064 Walton Street',NULL,'Perry','OK','73077','USA');
insert into address values (12,'4912 Thomas Street',NULL,'Burr Ridge','IL','61257','USA');
insert into customer_address values (1,1,0);
insert into customer_address values (2,2,1);
insert into customer_address values (3,3,1);
insert into customer_address values (1,4,1);
insert into customer_address values (4,5,1);
insert into customer_address values (5,6,0);
insert into customer_address values (6,7,1);
insert into customer_address values (7,8,1);
insert into customer_address values (5,9,1);

```



```

insert into customer_address values (8,10,1);
insert into customer_address values (9,11,1);
insert into customer_address values (10,12,1);
insert into user_account values (1,1,'JohnvasqShade','p57S5HC1fY','johnvasq54@gmail.com');
insert into user_account values (2,2,'jjj333','4h5yIS4qK2','jesssupercool09@yahoo.com');
insert into user_account values (3,3,'anthony','iB9J3vxzW3','antonyatcloud9@gmail.com');
insert into user_account values (4,4,'Frkevin','HD9p9B4vCH','kcharles@gmail.com');
insert into user_account values (5,5,'Cassiezee','kCGNnTnh8b','cassie_angel@hotmail.com');
insert into user_account values (6,6,'mark123','jtml4u8T5q','mr.mark@gmail.com');
insert into user_account values (7,7,'kiddolola','djA16A9dtH','cutieprincess@yahoo.com');
insert into user_account values (8,8,'j29','rfizXp1ibp','jadmaster234@hotmail.com');
insert into user_account values (9,9,'alloyd','8frDn7KJqA','abigail1652@gmail.com');
insert into user_account values (10,10,'amy_lowe','lHh8bel72F','amy_lowe@gmail.com');
insert into "order" values (1,TO_TIMESTAMP('2021-11-21 15:44:31', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,5,1);
insert into order_item values (1,2,2);
insert into order_item values (1,9,2);
insert into order_item values (1,4,2);
insert into payment values (1,1,37.9,TO_TIMESTAMP('2021-11-21 15:50:00', 'YYYY-MM-DD
HH24:MI:SS'),1);
insert into "order" values (2,TO_TIMESTAMP('2021-11-23 09:10:22', 'YYYY-MM-DD HH24:MI:SS'),2,'No
pepper please.',5,2);
insert into order_item values (2,5,1);
insert into payment values (2,2,11.99,TO_TIMESTAMP('2021-11-23 09:12:10', 'YYYY-MM-DD
HH24:MI:SS'),2);
insert into "order" values (3,TO_TIMESTAMP('2021-12-02 20:01:11', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,5,1);
insert into order_item values (3,1,2);
insert into order_item values (3,8,1);
insert into payment values (3,3,6.79,TO_TIMESTAMP('2021-12-12 20:05:15', 'YYYY-MM-DD
HH24:MI:SS'),1);

```

```

insert into "order" values (4,TO_TIMESTAMP('2021-12-13 11:33:17', 'YYYY-MM-DD
HH24:MI:SS'),1,NULL,5,3);

insert into order_item values (4,5,1);

insert into payment values (4,4,11.99,TO_TIMESTAMP('2021-12-13 11:34:10', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (5,TO_TIMESTAMP('2021-12-28 14:01:00', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,5,1);

insert into order_item values (5,2,3);

insert into order_item values (5,9,2);

insert into order_item values (5,10,1);

insert into payment values (5,5,35.5,TO_TIMESTAMP('2021-12-28 14:15:51', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (6,TO_TIMESTAMP('2022-01-03 15:44:31', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,5,1);

insert into order_item values (6,1,1);

insert into payment values (6,6,2,TO_TIMESTAMP('2022-01-03 15:45:10', 'YYYY-MM-DD HH24:MI:SS'),2);

insert into "order" values (7,TO_TIMESTAMP('2022-01-05 09:10:22', 'YYYY-MM-DD HH24:MI:SS'),2,'No
pepper',5,2);

insert into order_item values (7,5,1);

insert into payment values (7,7,11.99,TO_TIMESTAMP('2022-01-05 09:11:10', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (8,TO_TIMESTAMP('2022-01-15 20:01:11', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,5,1);

insert into order_item values (8,7,2);

insert into order_item values (8,10,2);

insert into payment values (8,8,24.58,TO_TIMESTAMP('2022-01-15 20:11:23', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (9,TO_TIMESTAMP('2022-01-25 11:33:17', 'YYYY-MM-DD
HH24:MI:SS'),1,NULL,5,3);

insert into order_item values (9,8,1);

insert into payment values (9,9,2.79,TO_TIMESTAMP('2022-01-15 11:35:41', 'YYYY-MM-DD
HH24:MI:SS'),1);

```

```

insert into "order" values (10,TO_TIMESTAMP('2022-02-02 07:01:20', 'YYYY-MM-DD
HH24:MI:SS'),1,'Extra cream',5,5);

insert into order_item values (10,11,4);

insert into payment values (10,10,19.96,TO_TIMESTAMP('2022-02-02 07:05:23', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (11,TO_TIMESTAMP('2022-02-03 07:15:31', 'YYYY-MM-DD
HH24:MI:SS'),1,'Extra cream',5,5);

insert into order_item values (11,11,4);

insert into payment values (11,11,19.96,TO_TIMESTAMP('2022-02-03 07:18:11', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (12,TO_TIMESTAMP('2022-02-10 09:10:22', 'YYYY-MM-DD HH24:MI:SS'),2,'A lot
of onions',5,8);

insert into order_item values (12,9,1);

insert into payment values (12,12,10,TO_TIMESTAMP('2022-02-10 09:11:56', 'YYYY-MM-DD
HH24:MI:SS'),1);

insert into "order" values (13,TO_TIMESTAMP('2022-02-23 07:30:17', 'YYYY-MM-DD
HH24:MI:SS'),1,'Extra cream and sugar',2,8);

insert into order_item values (13,12,1);

insert into payment values (13,13,3.99,TO_TIMESTAMP('2022-02-23 07:35:11', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (14,TO_TIMESTAMP('2022-02-23 07:33:17', 'YYYY-MM-DD
HH24:MI:SS'),1,'Extra cream',1,5);

insert into order_item values (14,11,3);

insert into payment values (14,14,14.97,TO_TIMESTAMP('2022-02-23 07:40:48', 'YYYY-MM-DD
HH24:MI:SS'),2);

insert into "order" values (15,TO_TIMESTAMP('2022-02-23 07:41:25', 'YYYY-MM-DD
HH24:MI:SS'),2,NULL,1,6);

insert into order_item values (15,5,2);

insert into payment values (15,15,23.98,TO_TIMESTAMP('2022-02-23 07:50:49', 'YYYY-MM-DD
HH24:MI:SS'),2);

```