Food Take-out System

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Design Purpose

-Collect
-Manage
-Analysis

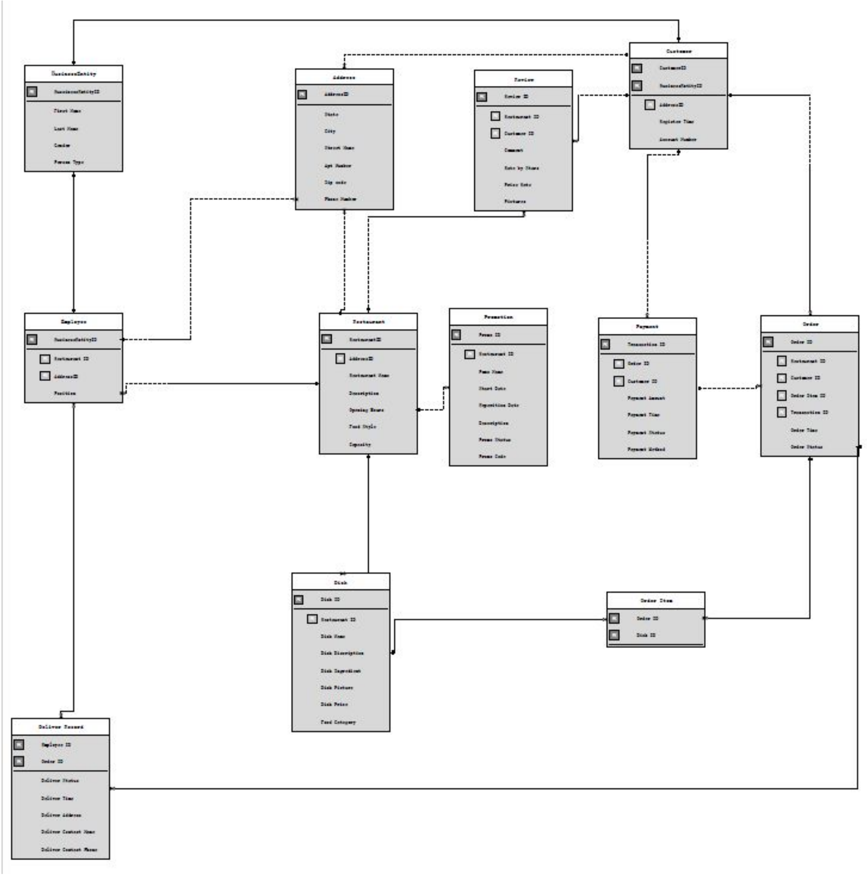
Main Modules

-Business Entity
-Restaurant
-Delivery
-Order

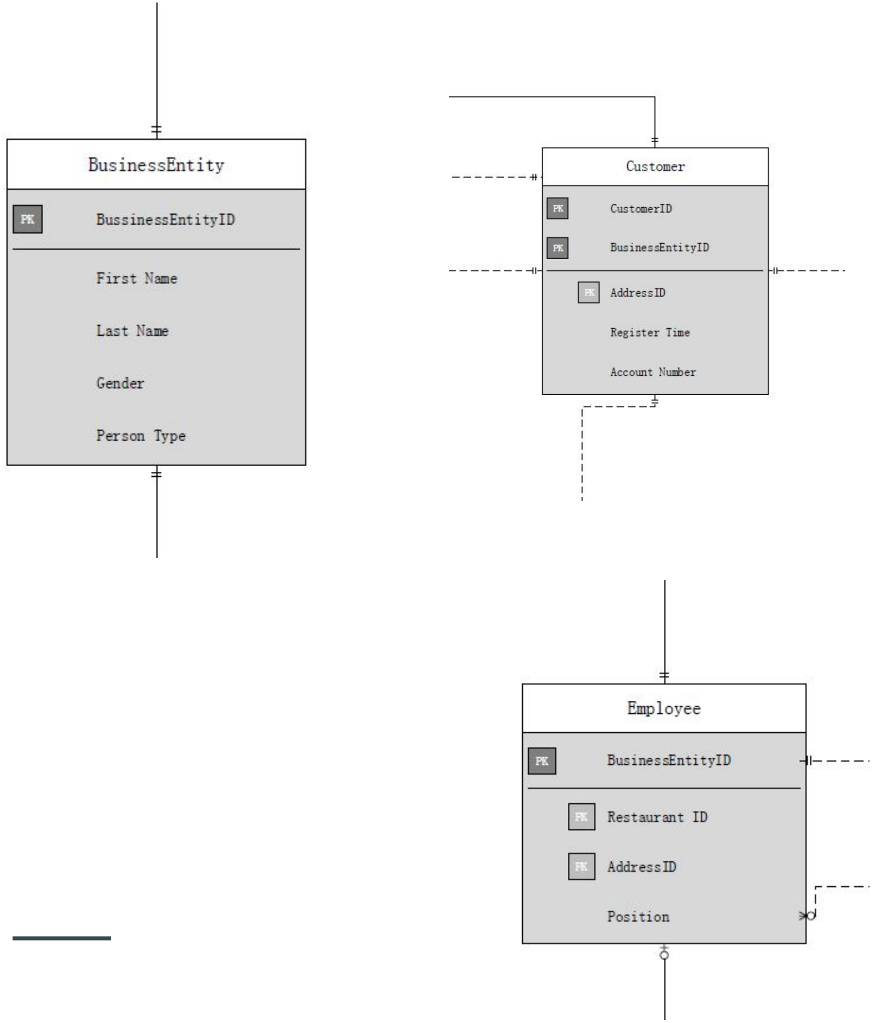
Entities

-Restaurant
-Customer
-Employee
-Review
-Payment
-Order
-Promotion
-Dish
-Deliver Record
-Address
-Business Entity
-Order Item

ERD


BusinessEntity
BusinessEntityID
First Name
Last Name
Gender
Person Type
Address
AddressID
State
City
Street Name
Apt Number
Zip code
Phone Number
Review
Review ID
Restaurant ID
Customer ID
Comment
Rate by Stars
Price Rate
Pictures
Customer
CustomerID
BusinessEntityID
AddressID
Expiration Time
Account Number
Employee
BusinessEntityID
Restaurant ID
AddressID
Position
Restaurant
RestaurantID
AddressID
Restaurant Name
Description
Opening Hours
Food Style
Capacity
Promotion
Promo ID
Restaurant ID
Promo Name
Start Date
Expiration Date
Description
Promo Status
Promo Code
Payment
Transaction ID
Order ID
Customer ID
Payment Amount
Payment Time
Payment Status
Payment Method
Order
Order ID
Restaurant ID
Customer ID
Order Item ID
Transaction ID
Order Time
Order Status
Dish
Dish ID
Restaurant ID
Dish Name
Dish Discription
Dish Ingredient
Dish Picture
Dish Price
Food Category
Order Item
Order ID
Dish ID
Deliver Record
Employee ID
Order ID
Deliver Status
Deliver Time
Deliver Address
Deliver Contact Name
Deliver Contact Phone

-Business Entity
-Customer
-Employee



BusinessEntity

PK BussinessEntityID

First Name

Last Name

Gender

Person Type

Customer

PK CustomerID

PK BusinessEntityID

FK AddressID

Register Time

Account Number

Employee

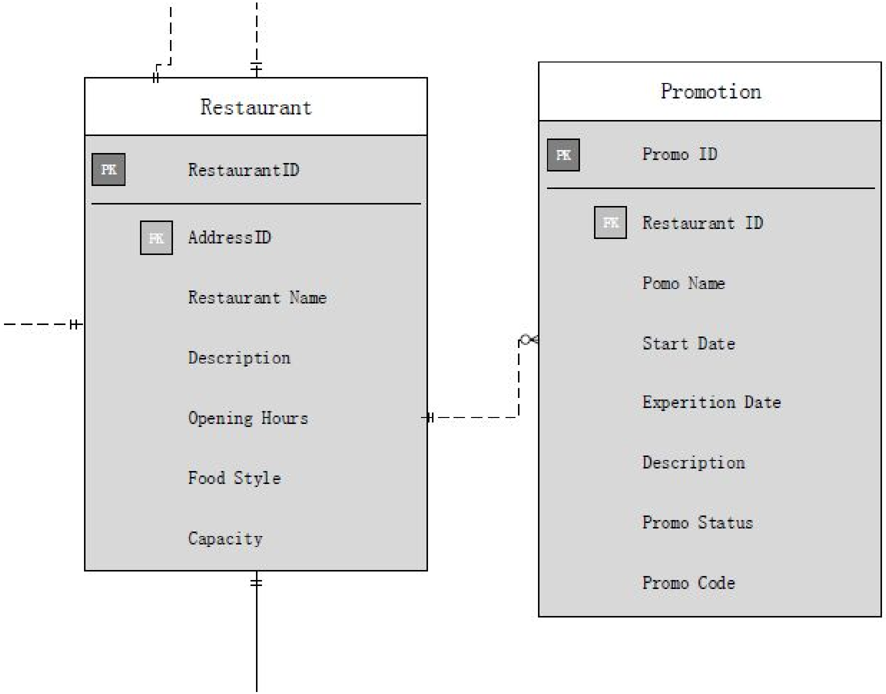
PK BusinessEntityID

FK Restaurant ID

FK AddressID

Position

-Restaurant
-Promotion



Restaurant

PK RestaurantID

FK AddressID

Restaurant Name

Description

Opening Hours

Food Style

Capacity

Promotion

PK Promo ID

FK Restaurant ID

Pomo Name

Start Date

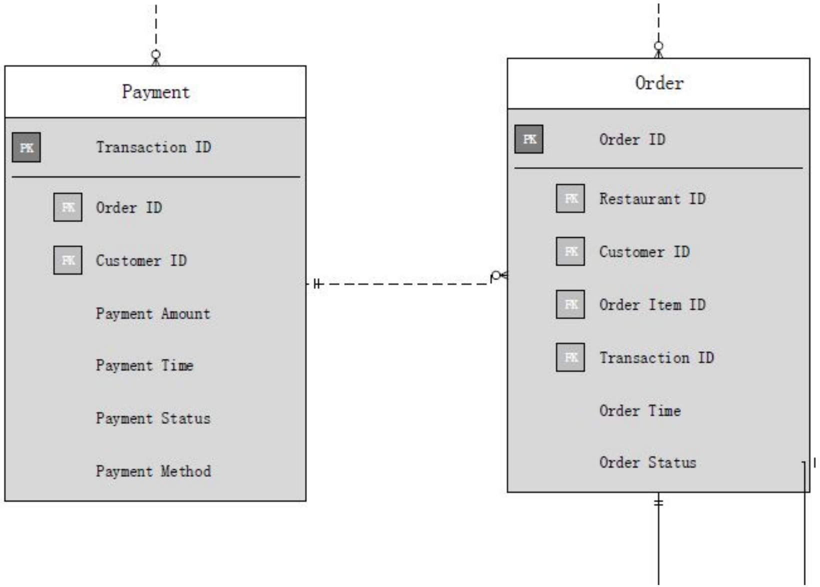
Experition Date

Description

Promo Status

Promo Code

-Payment
-Order



Payment

PK Transaction ID

FK Order ID

FK Customer ID

Payment Amount

Payment Time

Payment Status

Payment Method

Order

PK Order ID

FK Restaurant ID

FK Customer ID

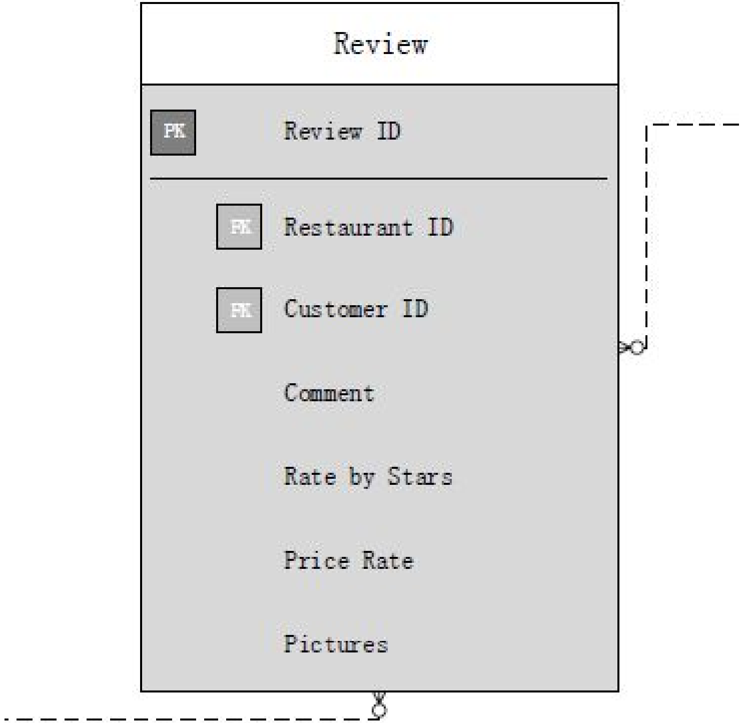
FK Order Item ID

FK Transaction ID

Order Time

Order Status

-Review



Review

PK Review ID

FK Restaurant ID

FK Customer ID

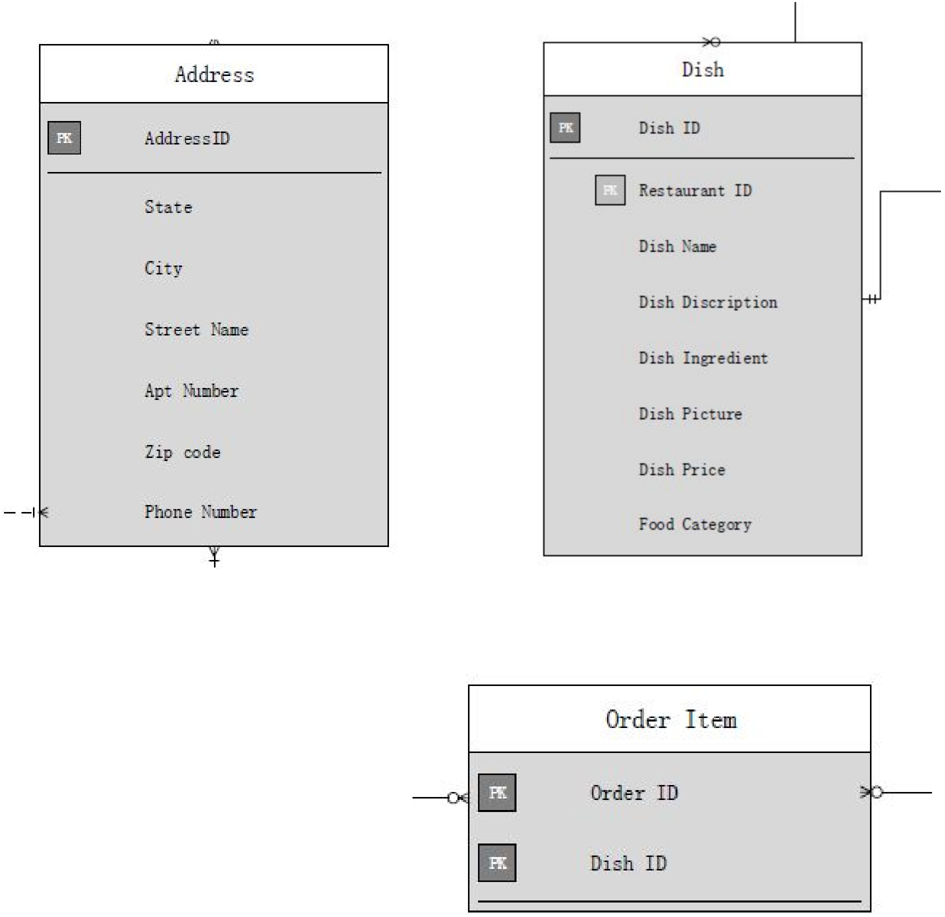
Comment

Rate by Stars

Price Rate

Pictures

-Address
-Dish
-Order Item



Address

PK AddressID

State

City

Street Name

Apt Number

Zip code

Phone Number

Dish

PK Dish ID

FK Restaurant ID

Dish Name

Dish Discription

Dish Ingredient

Dish Picture

Dish Price

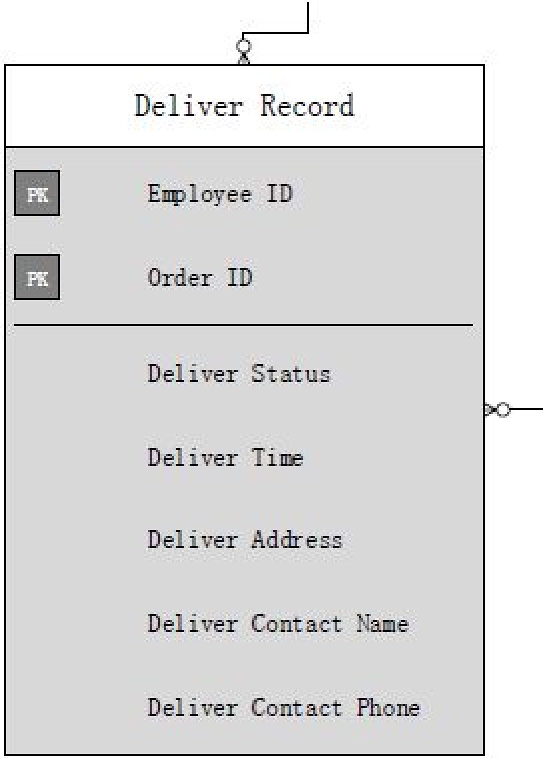
Food Category

Order Item

PK Order ID

PK Dish ID

-Deliver Record



Deliver Record

PK Employee ID

PK Order ID

Deliver Status

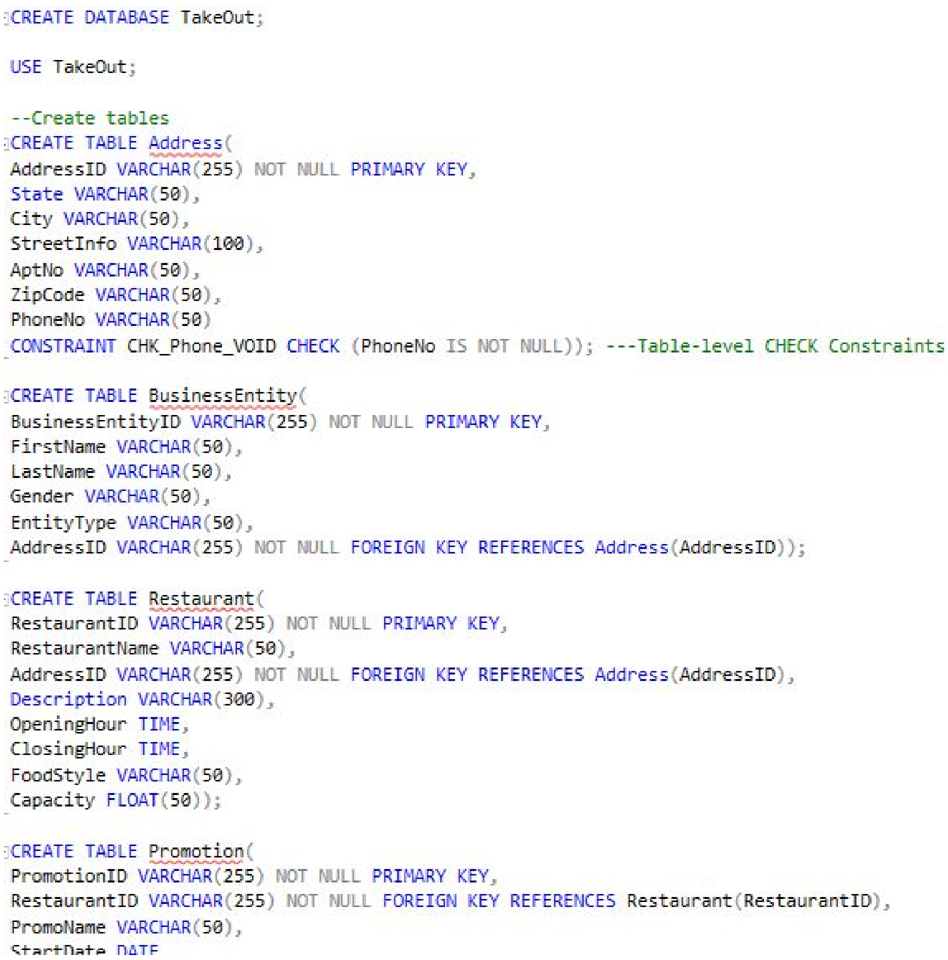
Deliver Time

Deliver Address

Deliver Contact Name

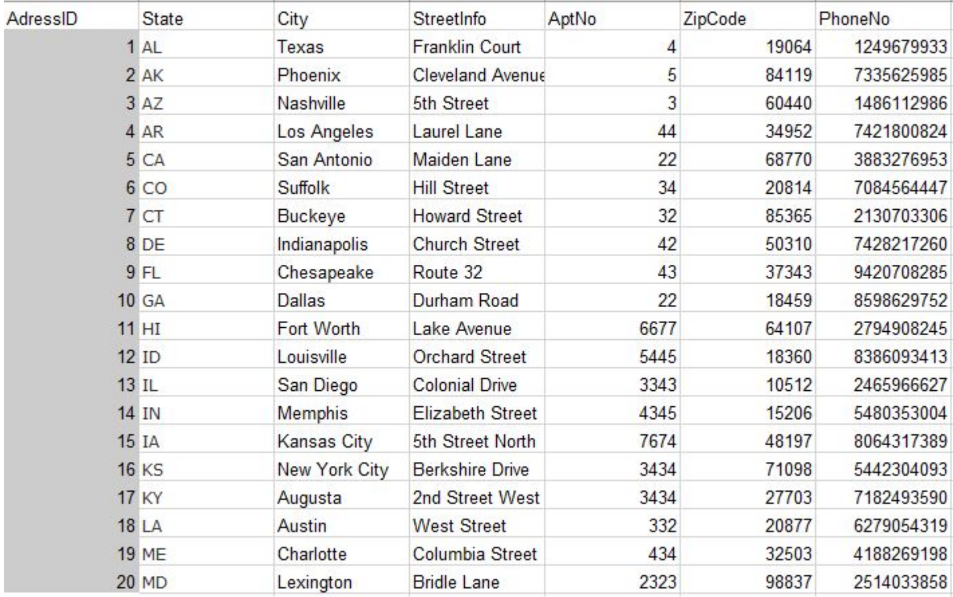
Deliver Contact Phone

Implement

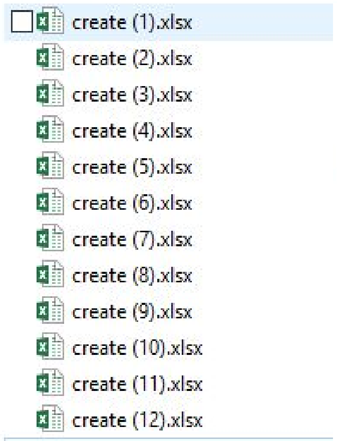


```
CREATE DATABASE TakeOut;

USE TakeOut;

--Create tables
CREATE TABLE Address(
AddressID VARCHAR(255) NOT NULL PRIMARY KEY,
State VARCHAR(50),
City VARCHAR(50),
StreetInfo VARCHAR(100),
AptNo VARCHAR(50),
ZipCode VARCHAR(50),
PhoneNo VARCHAR(50)
CONSTRAINT CHK_Phone_VOID CHECK (PhoneNo IS NOT NULL)); ---Table-level CHECK Constraints

CREATE TABLE BusinessEntity(
BusinessEntityID VARCHAR(255) NOT NULL PRIMARY KEY,
FirstName VARCHAR(50),
LastName VARCHAR(50),
Gender VARCHAR(50),
EntityType VARCHAR(50),
AddressID VARCHAR(255) NOT NULL FOREIGN KEY REFERENCES Address(AddressID));

CREATE TABLE Restaurant(
RestaurantID VARCHAR(255) NOT NULL PRIMARY KEY,
RestaurantName VARCHAR(50),
AddressID VARCHAR(255) NOT NULL FOREIGN KEY REFERENCES Address(AddressID),
Description VARCHAR(300),
OpeningHour TIME,
ClosingHour TIME,
FoodStyle VARCHAR(50),
Capacity FLOAT(50));

CREATE TABLE Promotion(
PromotionID VARCHAR(255) NOT NULL PRIMARY KEY,
RestaurantID VARCHAR(255) NOT NULL FOREIGN KEY REFERENCES Restaurant(RestaurantID),
PromoName VARCHAR(50),
StartDate DATE
```

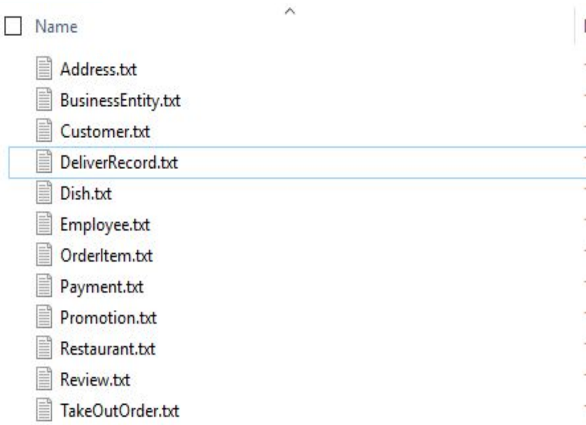
Create Test Data



AdressID	State	City	StreetInfo	AptNo	ZipCode	PhoneNo
1	AL	Texas	Franklin Court	4	19064	1249679933
2	AK	Phoenix	Cleveland Avenue	5	84119	7335625985
3	AZ	Nashville	5th Street	3	60440	1486112986
4	AR	Los Angeles	Laurel Lane	44	34952	7421800824
5	CA	San Antonio	Maiden Lane	22	68770	3883276953
6	CO	Suffolk	Hill Street	34	20814	7084564447
7	CT	Buckeye	Howard Street	32	85365	2130703306
8	DE	Indianapolis	Church Street	42	50310	7428217260
9	FL	Chesapeake	Route 32	43	37343	9420708285
10	GA	Dallas	Durham Road	22	18459	8598629752
11	HI	Fort Worth	Lake Avenue	6677	64107	2794908245
12	ID	Louisville	Orchard Street	5445	18360	8386093413
13	IL	San Diego	Colonial Drive	3343	10512	2465966627
14	IN	Memphis	Elizabeth Street	4345	15206	5480353004
15	IA	Kansas City	5th Street North	7674	48197	8064317389
16	KS	New York City	Berkshire Drive	3434	71098	5442304093
17	KY	Augusta	2nd Street West	3434	27703	7182493590
18	LA	Austin	West Street	332	20877	6279054319
19	ME	Charlotte	Columbia Street	434	32503	4188269198
20	MD	Lexington	Bridle Lane	2323	98837	2514033858



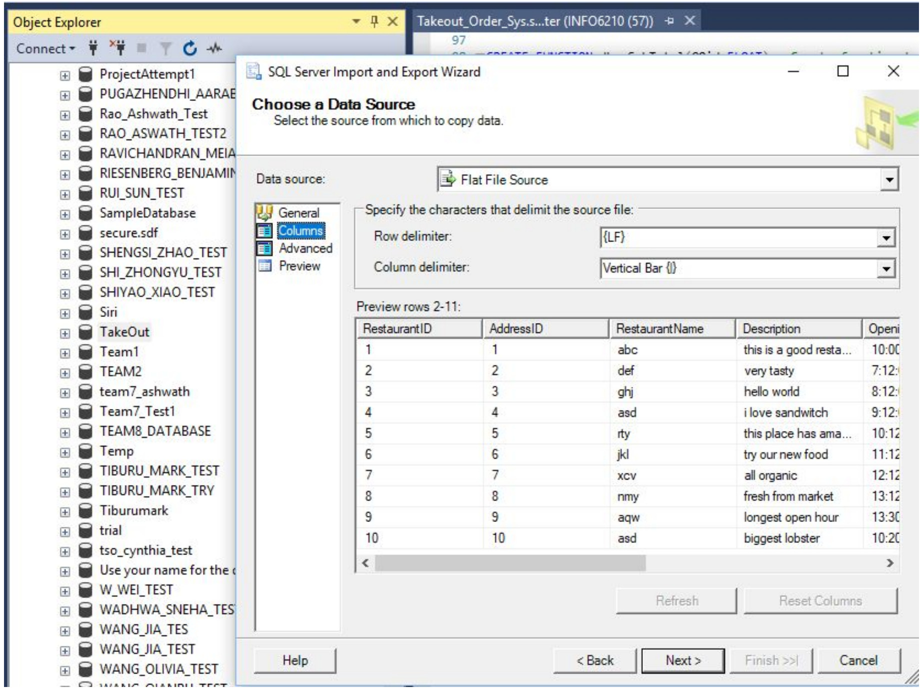
□ create (1).xlsx
create (2).xlsx
create (3).xlsx
create (4).xlsx
create (5).xlsx
create (6).xlsx
create (7).xlsx
create (8).xlsx
create (9).xlsx
create (10).xlsx
create (11).xlsx
create (12).xlsx



□ Name

Address.txt
BusinessEntity.txt
Customer.txt
DeliverRecord.txt
Dish.txt
Employee.txt
OrderItem.txt
Payment.txt
Promotion.txt
Restaurant.txt
Review.txt
TakeOutOrder.txt

Import Data



Choose a Data Source

Select the source from which to copy data.

Data source: Flat File Source

Specify the characters that delimit the source file:

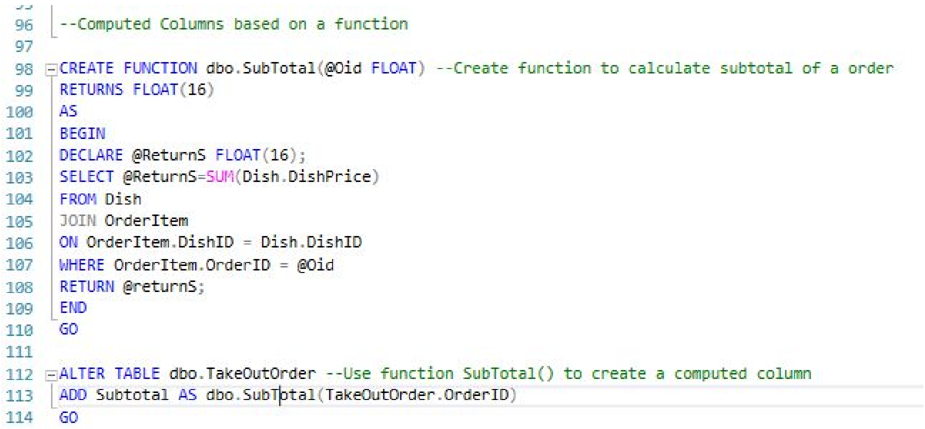
Row delimiter: {LF}

Column delimiter: Vertical Bar {|}

Preview rows 2-11:

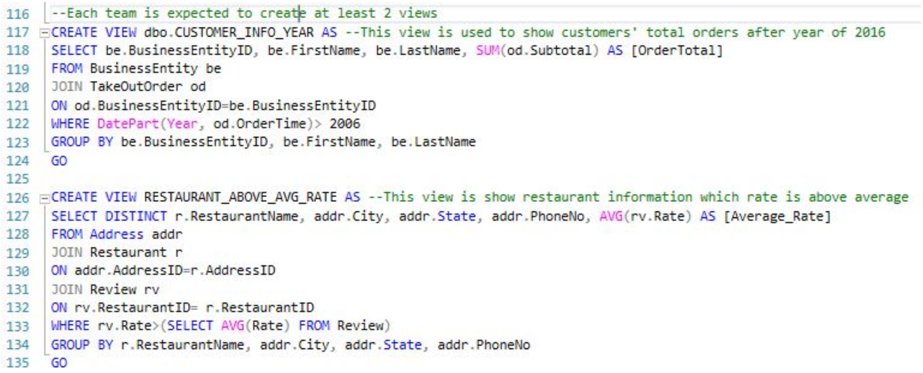
RestaurantID	AddressID	RestaurantName	Description	Openi
1	1	abc	this is a good resta...	10:00
2	2	def	very tasty	7:12:
3	3	ghj	hello world	8:12:
4	4	asd	i love sandwitch	9:12:
5	5	rty	this place has ama...	10:12
6	6	jkl	try our new food	11:12
7	7	xcv	all organic	12:12
8	8	nmy	fresh from market	13:12
9	9	aqw	longest open hour	13:30
10	10	asd	biggest lobster	10:20

-Create Calculative Functions

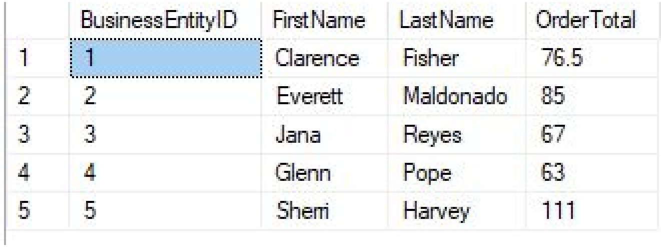


```sql
--Computed Columns based on a function

CREATE FUNCTION dbo.SubTotal(@Oid FLOAT) --Create function to calculate subtotal of a order
RETURNS FLOAT(16)
AS
BEGIN
DECLARE @ReturnS FLOAT(16);
SELECT @ReturnS=SUM(Dish.DishPrice)
FROM Dish
JOIN OrderItem
ON OrderItem.DishID = Dish.DishID
WHERE OrderItem.OrderID = @Oid
RETURN @returnS;
END
GO

ALTER TABLE dbo.TakeOutOrder --Use function SubTotal() to create a computed column
ADD Subtotal AS dbo.SubTotal(TakeOutOrder.OrderID)
GO
```

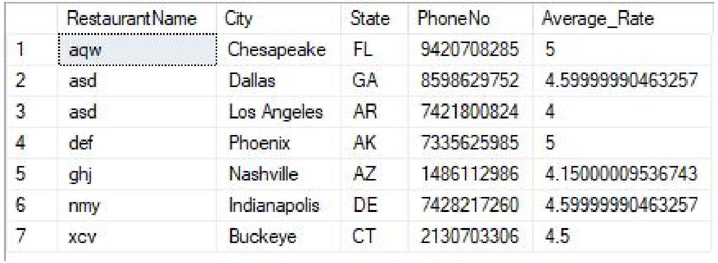
-Create Views



```sql
--Each team is expected to create at least 2 views
CREATE VIEW dbo.CUSTOMER_INFO_YEAR AS --This view is used to show customers' total orders after year of 2016
SELECT be.BusinessEntityID, be.FirstName, be.LastName, SUM(od.Subtotal) AS [OrderTotal]
FROM BusinessEntity be
JOIN TakeOutOrder od
ON od.BusinessEntityID=be.BusinessEntityID
WHERE DatePart(Year, od.OrderTime)> 2006
GROUP BY be.BusinessEntityID, be.FirstName, be.LastName
GO

CREATE VIEW RESTAURANT_ABOVE_AVG_RATE AS --This view is show restaurant information which rate is above average
SELECT DISTINCT r.RestaurantName, addr.City, addr.State, addr.PhoneNo, AVG(rv.Rate) AS [Average_Rate]
FROM Address addr
JOIN Restaurant r
ON addr.AddressID=r.AddressID
JOIN Review rv
ON rv.RestaurantID= r.RestaurantID
WHERE rv.Rate>(SELECT AVG(Rate) FROM Review)
GROUP BY r.RestaurantName, addr.City, addr.State, addr.PhoneNo
GO
```



	BusinessEntityID	FirstName	LastName	OrderTotal
1	1	Clarence	Fisher	76.5
2	2	Everett	Maldonado	85
3	3	Jana	Reyes	67
4	4	Glenn	Pope	63
5	5	Sherri	Harvey	111



	RestaurantName	City	State	PhoneNo	Average_Rate
1	aqw	Chesapeake	FL	9420708285	5
2	asd	Dallas	GA	8598629752	4.59999990463257
3	asd	Los Angeles	AR	7421800824	4
4	def	Phoenix	AK	7335625985	5
5	ghj	Nashville	AZ	1486112986	4.15000009536743
6	nmy	Indianapolis	DE	7428217260	4.59999990463257
7	xcv	Buckeye	CT	2130703306	4.5

Power BI Report