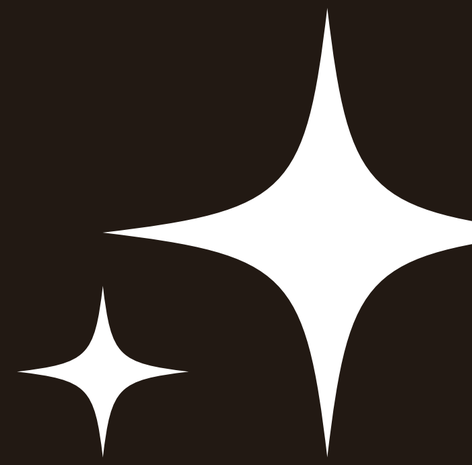
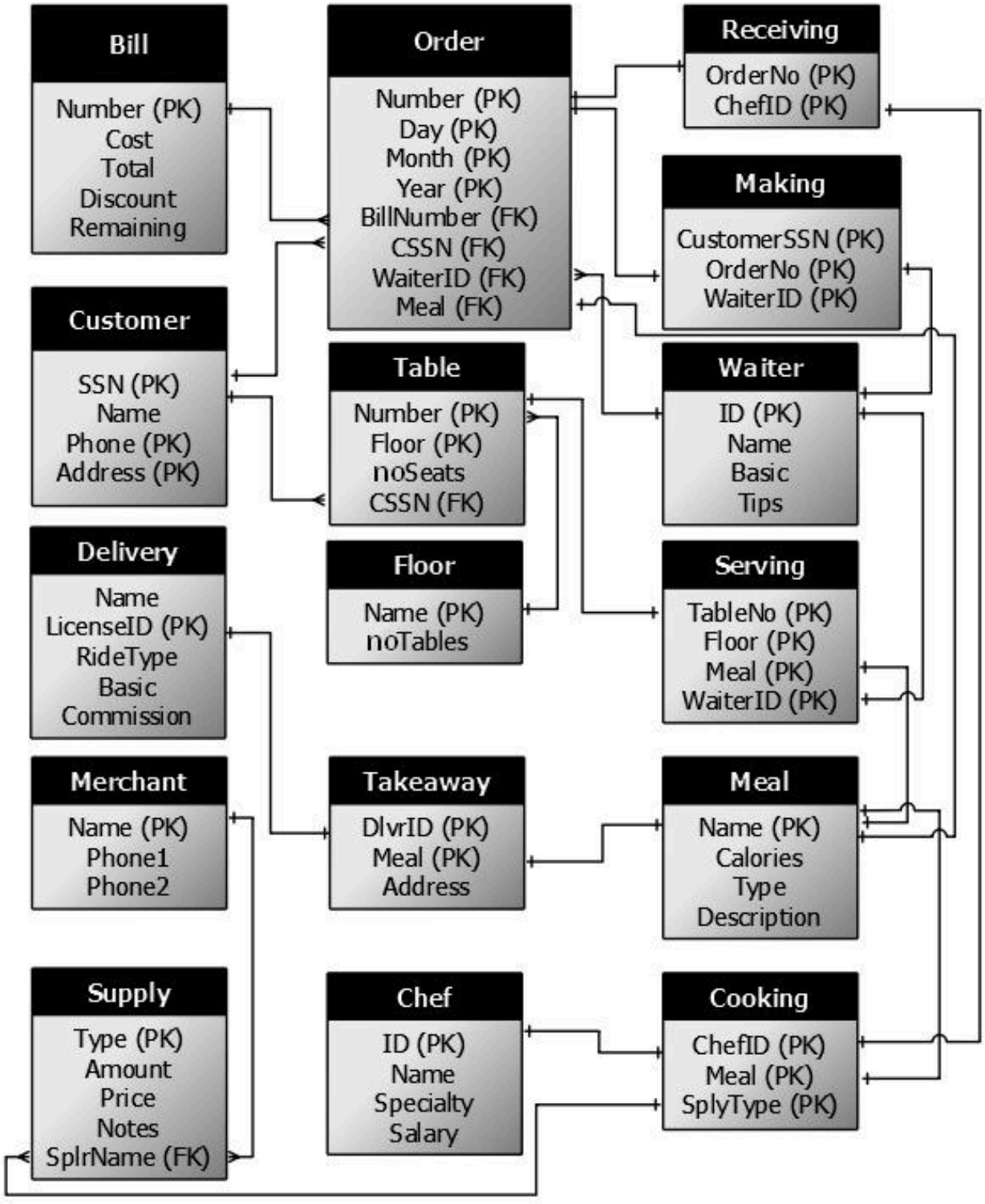
Cloud Burger Restaurant

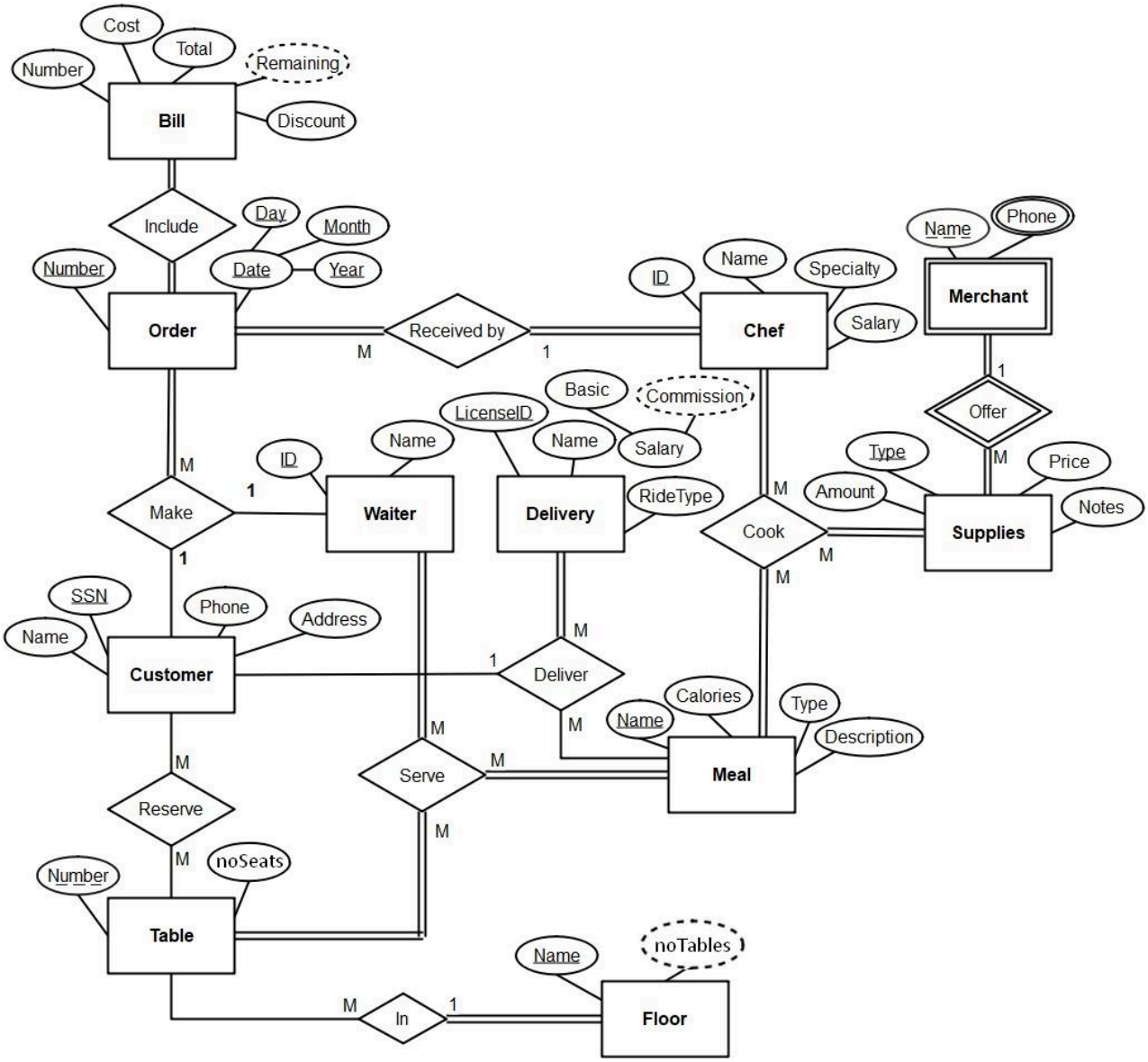


Physical data model

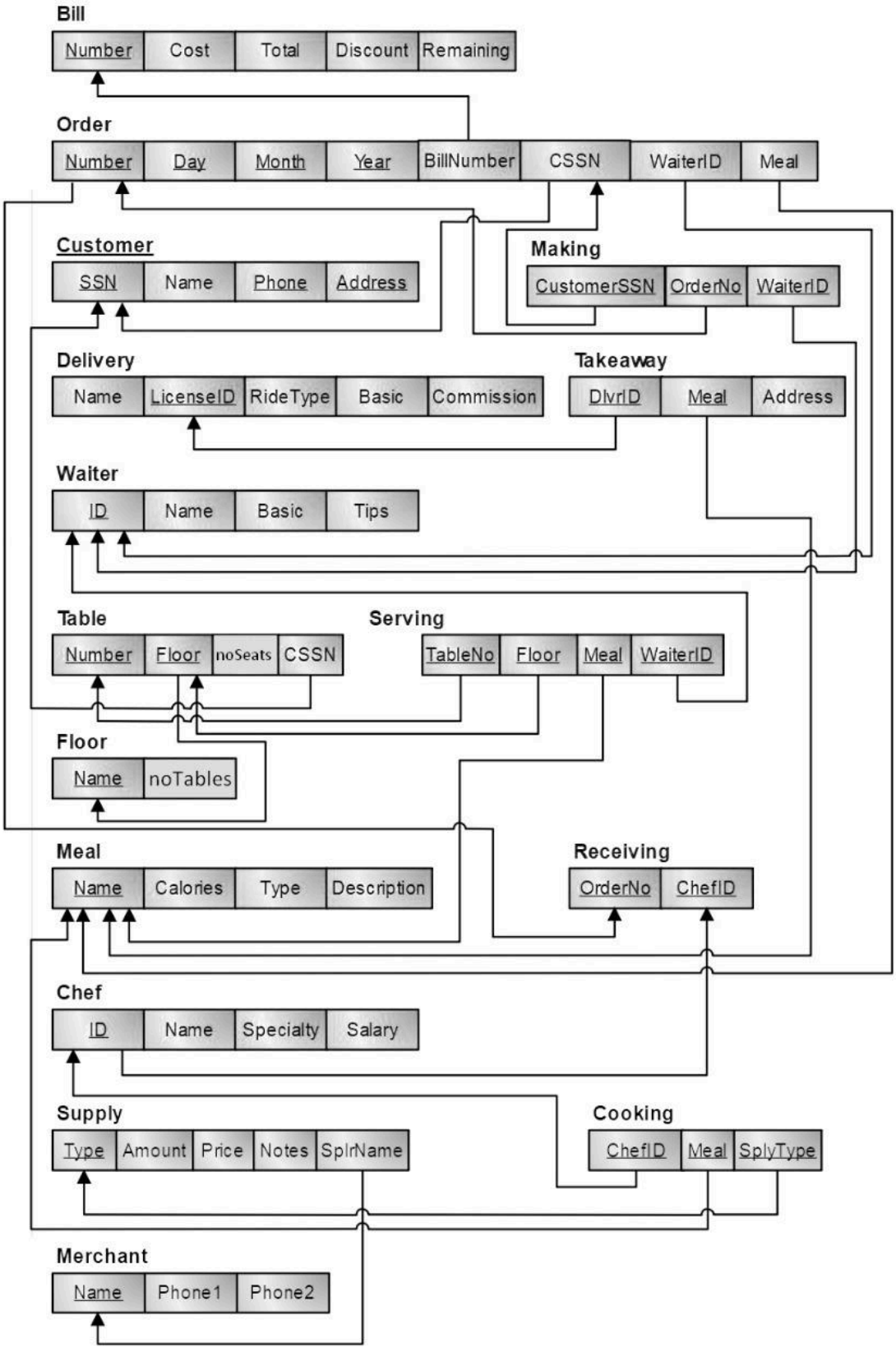


The second submission

Conceptual data model (ERM)



Logical Data model (Schema)



Code :

Bill:

create table Bill

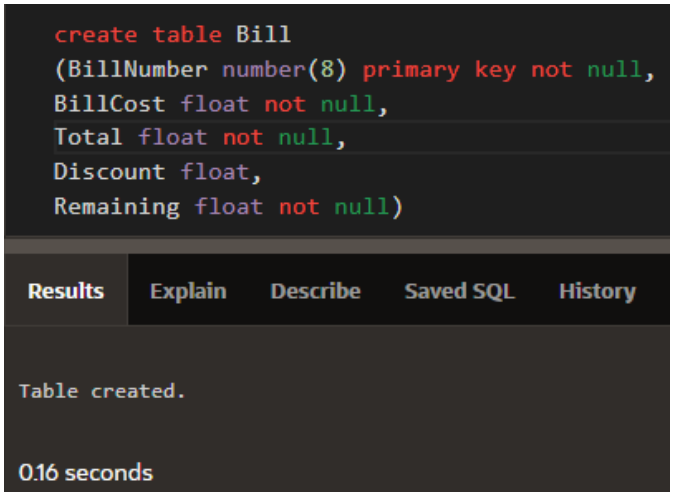
(BillNumber number(8) primary key not null,

BillCost float not null,

Total float not null,

Discount float,

Remaining float not null)



Customer:

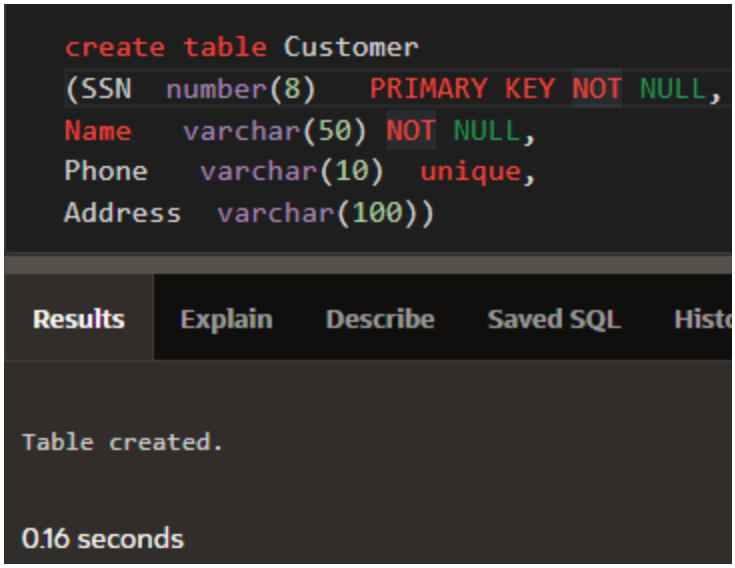
create table Customer

(SSN number(8) PRIMARY KEY NOT NULL,

Name varchar(50) NOT NULL,

Phone varchar(10) unique,

Address varchar(100))

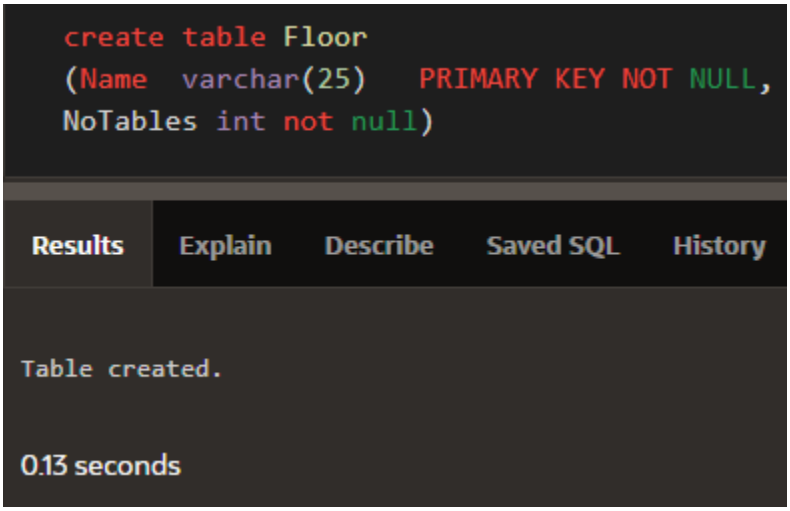


Floor:

create table Floor

(Name varchar(25) PRIMARY KEY NOT NULL,

NoTables int not null)



Tables1:

create table Tables1

(TNumber Number(3) NOT NULL,

Floor varchar(25) NOT NULL,

NoSeats number(2),

CSSN number(8),

primary key (TNumber),

CONSTRAINT FK_CSSN FOREIGN KEY (CSSN) REFERENCES CUSTOMER(SSN),

CONSTRAINT FK_Floor FOREIGN KEY (Floor) REFERENCES Floor(Name))

```
create table Tables1
(TNumber Number(3) NOT NULL,
Floor varchar(25) NOT NULL,
NoSeats number(2),
CSSN number(8),
primary key (TNumber),
CONSTRAINT FK_CSSN FOREIGN KEY (CSSN) REFERENCES CUSTOMER(SSN),
CONSTRAINT FK_Floor FOREIGN KEY (Floor) REFERENCES Floor(Name))
```

Delivery:

create table Delivery

(LicenseID number(15) PRIMARY KEY NOT NULL,

Name varchar(50) NOT NULL,

RideType varchar(50) NOT NULL,

Baslc float NOT NULL,

Commission float)

```
create table Delivery
(LicenseID  number(15)   PRIMARY KEY NOT NULL,
Name varchar(50) NOT NULL,
RideType varchar(50) NOT NULL,
baslc float  NOT NULL,
Commission float)
```

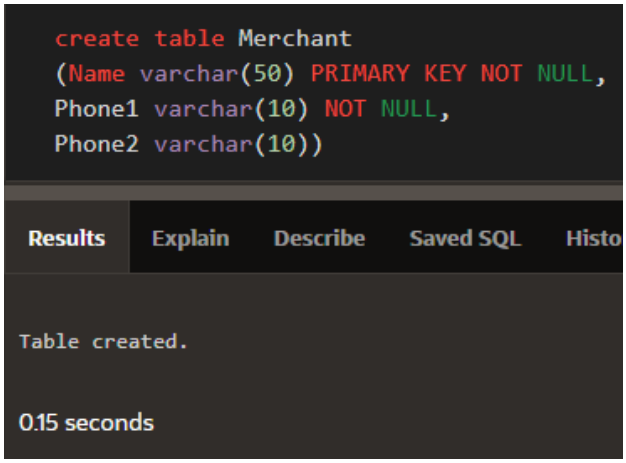
Merchant:

create table Merchant

(Name varchar(50) PRIMARY KEY NOT NULL,

Phone1 varchar(10) NOT NULL,

Phone2 varchar(10))



Supply:

create table Supply

(Type varchar(50) PRIMARY KEY NOT NULL,

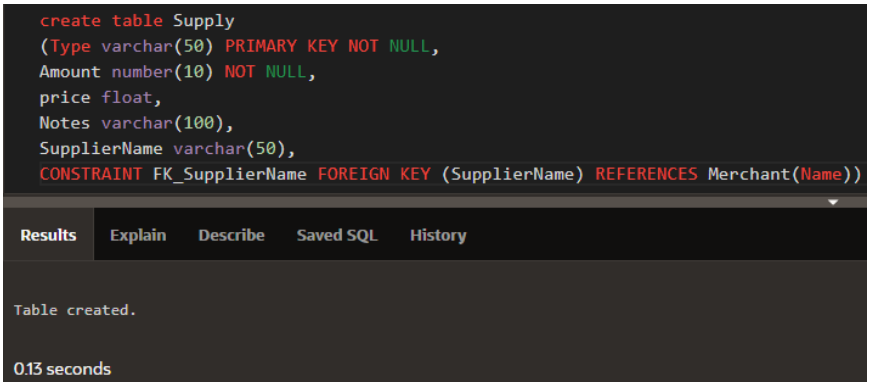
Amount number(10) NOT NULL,

price float,

Notes varchar(100),

SupplierName varchar(50),

CONSTRAINT FK_SupplierName FOREIGN KEY (SupplierName) REFERENCES Merchant(Name))



Chef:

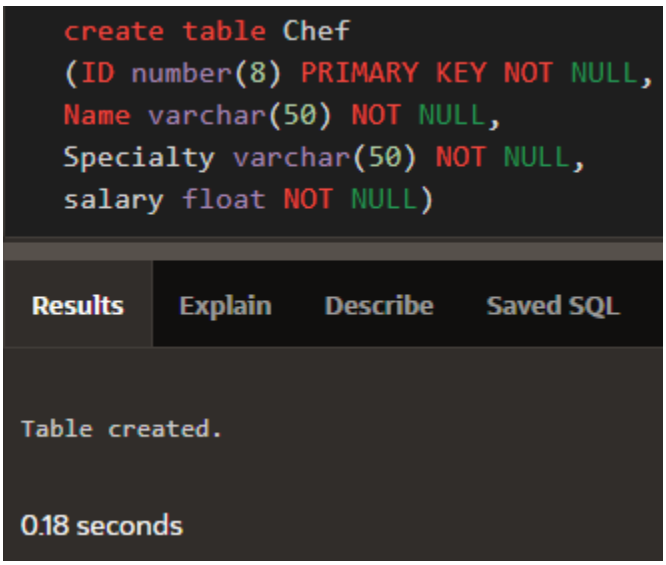
create table Chef

(ID number(8) PRIMARY KEY NOT NULL,

Name varchar(50) NOT NULL,

Specialty varchar(50) NOT NULL,

salary float NOT NULL)



Waiter:

create table Waiter

(ID number(8) PRIMARY KEY NOT NULL,

Name varchar(50) NOT NULL,

Basic float NOT NULL,

Tips float)

```
create table Waiter
(ID number(8) PRIMARY KEY NOT NULL,
Name varchar(50) NOT NULL,
Baslc float NOT NULL,
Tips float)
```

Meal:

create table Meal

(Name varchar(50) PRIMARY KEY NOT NULL,

Calories float(10),

Typess varchar(50),

Descriptions varchar(100))

```
create table Meal
(Name varchar(50) PRIMARY KEY NOT NULL,
Calories float(10),
Typess varchar(50),
Descriptions varchar(100))
```

Orders:

create table Orders

(ONumber number(10)NOT NULL,

Day varchar(10) NOT NULL,

Month varchar(10) NOT NULL,

Year number(4) NOT NULL,

BillNumber NUMBER(8) Not NULL,

CSSN NUMBER(8) Not NULL,

WaiterID NUMBER(8) Not NULL,

Meal varchar(50),

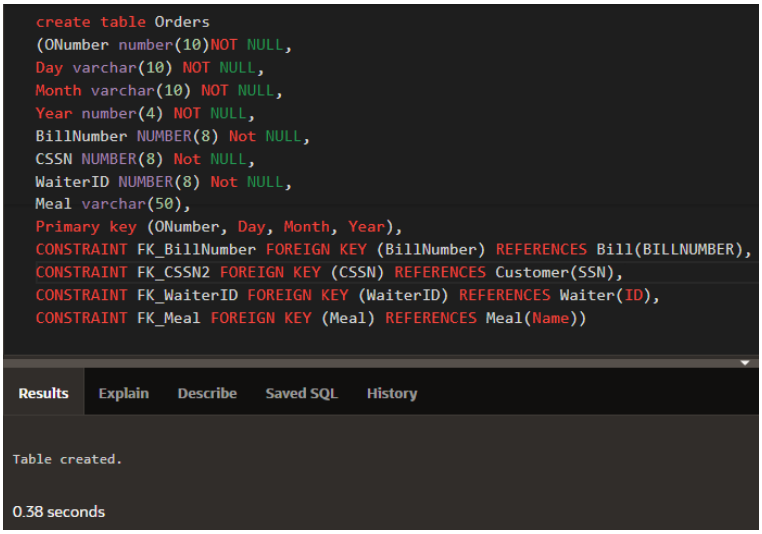
Primary key (ONumber)

CONSTRAINT FK_BillNumber FOREIGN KEY (BillNumber) REFERENCES Bill(BILLNUMBER),

CONSTRAINT FK_CSSN2 FOREIGN KEY (CSSN) REFERENCES Customer(SSN),

CONSTRAINT FK_WaiterID FOREIGN KEY (WaiterID) REFERENCES Waiter(ID),

CONSTRAINT FK_Meal FOREIGN KEY (Meal) REFERENCES Meal(Name))



Receiving:

create table Receiving

(OrderNo number(10) NOT NULL,

DAY VARCHAR(10) NOT NULL,

MONTH VARCHAR(10) NOT NULL,

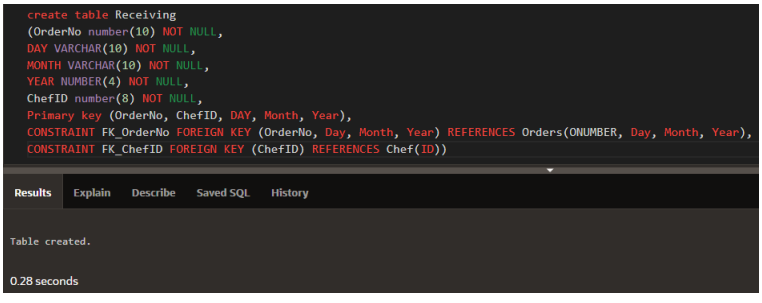
YEAR NUMBER(4) NOT NULL,

ChefID number(8) NOT NULL,

Primary key (OrderNo, ChefID, DAY, Month, Year),

CONSTRAINT FK_OrderNo FOREIGN KEY (OrderNo, Day, Month, Year) REFERENCES Orders(ONUMBER, Day, Month, Year),

CONSTRAINT FK_ChefID FOREIGN KEY (ChefID) REFERENCES Chef(ID))



Making:

create table Making

(CustomerSSN number(10) NOT NULL,

OrderNo number(10) NOT NULL,

DAY VARCHAR(10) NOT NULL,

MONTH VARCHAR(10) NOT NULL,

YEAR NUMBER(4) NOT NULL,

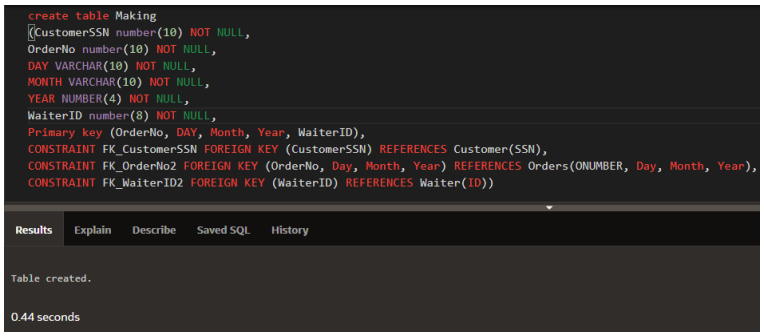
WaiterID number(8) NOT NULL,

Primary key (OrderNo, DAY, Month, Year, WaiterID),

CONSTRAINT FK_CustomerSSN FOREIGN KEY (CustomerSSN) REFERENCES Customer(SSN),

CONSTRAINT FK_OrderNo2 FOREIGN KEY (OrderNo, Day, Month, Year) REFERENCES Orders(ONUMBER, Day, Month, Year),

CONSTRAINT FK_WaiterID2 FOREIGN KEY (WaiterID) REFERENCES Waiter(ID))



Serving:

create table Serving

(TableNo number(3) NOT NULL,

Floor varchar(25) NOT NULL,

Meal varchar(50) NOT NULL,

WaiterID number(8) NOT NULL,

Primary key (TableNo, Floor, Meal, WaiterID),

CONSTRAINT FK_TableNo FOREIGN KEY (TableNo, Floor) REFERENCES Tables(TNumber, FLOOR),

CONSTRAINT FK_Meal2 FOREIGN KEY (Meal) REFERENCES Meal(Name),

CONSTRAINT FK_WaiterID3 FOREIGN KEY (WaiterID) REFERENCES Waiter(ID))

```
create table Serving
(TableNo number(3) NOT NULL,
Floor varchar(25) NOT NULL,
Meal varchar(50) NOT NULL,
WaiterID number(8) NOT NULL,
Primary key (TableNo, Floor, Meal, WaiterID),
CONSTRAINT FK_TableNo FOREIGN KEY (TableNo, Floor) REFERENCES Tables(TNumber, FLOOR),
CONSTRAINT FK_Meal2 FOREIGN KEY (Meal) REFERENCES Meal(Name),
CONSTRAINT FK_WaiterID3 FOREIGN KEY (WaiterID) REFERENCES Waiter(ID))
```

Results | Explain | Describe | Saved SQL | History

```
Table created.
```

0.35 seconds

Takeaway:

create table Takeaway

(DlvrID number(3) NOT NULL,

Meal varchar(50) NOT NULL,

Address varchar(100),

Primary key (DlvrID, Meal),

CONSTRAINT FK_DlvrID FOREIGN KEY (DlvrID) REFERENCES DELIVERY(LICENSEID),

CONSTRAINT FK_Meal3 FOREIGN KEY (Meal) REFERENCES Meal(Name))

```
create table Takeaway
(DlvrID number(3) NOT NULL,
Meal varchar(50) NOT NULL,
Address varchar(100),
Primary key (DlvrID, Meal),
CONSTRAINT FK_DlvrID FOREIGN KEY (DlvrID) REFERENCES DELIVERY(LICENSEID),
CONSTRAINT FK_Meal3 FOREIGN KEY (Meal) REFERENCES Meal(Name))
```

Results | Explain | Describe | Saved SQL | History

```
Table created.
```

0.27 seconds

Cooking:

create table Cooking

(ChefID number(10) NOT NULL,

Meal varchar(50) NOT NULL,

SplyType VARCHAR2(50) NOT NULL,

Primary key (ChefID, Meal, SplyType),

CONSTRAINT FK_ChefID2 FOREIGN KEY (ChefID) REFERENCES Chef(ID),

CONSTRAINT FK_Meal4 FOREIGN KEY (Meal) REFERENCES Meal(Name),

CONSTRAINT FK_SplyType FOREIGN KEY (SplyType) REFERENCES Supply(Type))

```
create table Cooking
(ChefID number(10) NOT NULL,
Meal varchar(50) NOT NULL,
SplyType VARCHAR2(50) NOT NULL,
Primary key (ChefID, Meal, SplyType),
CONSTRAINT FK_ChefID2 FOREIGN KEY (ChefID) REFERENCES Chef(ID),
CONSTRAINT FK_Meal4 FOREIGN KEY (Meal) REFERENCES Meal(Name),
CONSTRAINT FK_SplyType FOREIGN KEY (SplyType) REFERENCES Supply(Type))
```

Results | Explain | Describe | Saved SQL | History

```
Table created.
```

0.29 seconds

Insert into

```
insert into Customer values(123,'a',04562582,'street01')
insert into Customer values(122,'b',04772582,'street02')
insert into Customer values(189,'e',04452582,'street03')
insert into Customer values(125,'c',04598582,'street04')
insert into Customer values(131,'d',04876582,'street05')
```

```
insert into Merchant ( Name, Phone1 ) values('B09',987647)
insert into Merchant values('A01',983097,9489435)
insert into Merchant values('F06',98767547,99865646)
insert into Merchant ( Name, Phone1 ) values('H10',84067547)
```

```
insert into Floor values('firest',20)
insert into Floor values('third',25)
insert into Floor values('scand',20)
insert into Floor values('fourth',10)
```

```
insert into Delivery values(987,'Ab','Motorcycle',1300,10)
insert into Delivery values(608,'Abd-Allah','Bike',1280,9.5)
insert into Delivery values(897,'Za','Motorcycle',1500,9)
insert into Delivery values(890,'Az','Bike',1500,19)
insert into Delivery values(709,'Ahmed','Bike',1270,9)
insert into Delivery values(937,'Bc','Motorcycle',1200,13)
insert into Delivery values(997,'Ac','Motorcycle',1500,10)
```

```
insert into Chef values(10,'abc','meat',2400)
insert into Chef values(19,'sah','sweet',2000)
insert into Chef values(13,'bac','meat',2400)
insert into Chef values(20,'has','sweet',1900)
```

```
insert into Bill values(105,50,50,5,0)
insert into Bill values(101,19,25,8,20)
insert into Bill values(103,27,40,5,20)
insert into Bill values(102,205,50,12,20)
```

```
insert into Waiter values(58,'hamed',1710,50)
insert into Waiter values(48,'hussin',1590,30)
insert into Waiter values(55,'hamza',1500,50)
insert into Waiter values(45,'rashed',1500,50)
```

```
insert into Meal (Name,Calories,Type) values('White Cake',200,'Sweet')
insert into Meal (Name,Calories,Type) values('Freid Chicken',1700,'Meat')
insert into Meal (Name,Calories,Type) values('Grilled Chicken',1100,'Meat')
insert into Meal (Name,Calories,Type) values('Whtite chocolate',2100,'Sweet')
```

Query

Tables with number of seats less than the average

```
select Tnumber, Floor, NoSeats from tables
where NoSeats < (select avg(NoSeats) from tables)
```

Results | Explain | Describe | Saved SQL | History

TNUMBER	FLOOR	NOSEATS
3	Second	3
2	Fourth	2
1	First	3

3 rows returned in 0.00 seconds Download

Tables that haven't been reserved

```
select TNUMBER, FLOOR from tables
where CSSN is null
```

Results | Explain | Describe | Saved SQL | History

TNUMBER	FLOOR
3	Second
2	Fourth
8	Second

3 rows returned in 0.00 seconds Download

Retrieving information about supplies and their suppliers

```
select Type, SUPPLIERNAME, Phone1
from Supply, Merchant
where Name = SUPPLIERNAME
```

Results | Explain | Describe | Saved SQL | History

TYPE	SUPPLIERNAME	PHONE1
Meat	B09	987647
Chicken	B09	987647
Chicken1	A01	983097
Fruit	H10	84067547

The meal with the highest calories

```
select Name, Type from Meal
where Calories = (select max(Calories) from Meal)
```

Results | Explain | Describe | Saved SQL | History

NAME	TYPE
White chocolate	Sweet

1 rows returned in 0.01 seconds Download

Information about delivery persons sorted by their rides

```
select Name, LicenseID, RideType from Delivery
order by RideType
```

Results | Explain | Describe | Saved SQL | History

NAME	LICENSEID	RIDETYPE
Az	890	Bike
Ahmed	709	Bike
Abd-Allah	608	Bike
Ac	997	Motorcycle
Za	897	Motorcycle

Number of seats in each floor in a descending order

```
select Floor, sum (NoSeats)
from Tables
group by Floor
order by sum (NoSeats) desc
```

Results | Explain | Describe | Saved SQL | History

FLOOR	SUM(NOSEATS)
Second	11
First	7
Third	5
Fourth	2

4 rows returned in 0.01 seconds Download

Comparison between waiters' basic salary average and delivery basic salary average

```
select avg (W.Basic) Waiters, avg (D.Basic) DeliveryPersons
from Waiter W, Delivery D
```

Results | Explain | Describe | Saved SQL | History

WAITERS	DELIVERYPERSONS
1525	1335.714285714285714285714285714285714429

1 rows returned in 0.00 seconds Download

The comparison after approximation

```
select avg (W.Basic) Waiters, floor(avg(D.Basic)) DeliveryPersons
from Waiter W, Delivery D
```

Results | Explain | Describe | Saved SQL | History

WAITERS	DELIVERYPERSONS
1525	1335

1 rows returned in 0.01 seconds Download

Each client and the floor his/her table in

```
select C.Name, F.Name
from Customer C inner join Tables T on T.CSSN = C.SSN
inner join Floor F on T.Floor = F.Name
```

Results | Explain | Describe | Saved SQL | History

NAME	NAME
A	First
C	Second
D	Third

Information about supplies that need to be purchased with their amounts, prices and supplier contact

```
select Type, amount, price, M.Name, phone1
from Merchant M inner join Supply S on M.Name = S.SupplierName
where amount <= 10
order by price
```

Results | Explain | Describe | Saved SQL | History

TYPE	AMOUNT	PRICE	NAME	PHONE1
Sauce	3	420	F06	98767547
Sweets	5	650	H10	84067547
Beef	8	732	A01	983097

The financial transaction of each supplier with total more than 1000

```
Select SupplierName, sum(price) FinancialTransactions
from Supply S inner join Merchant M on S.SupplierName = M.Name
Group by SupplierName
having sum(Price) > 1000
```

Results | Explain | Describe | Saved SQL | History

SUPPLIERNAME	FINANCIALTRANSACTIONS
A01	1652
B09	1900
H10	1550

View

Motorcycle Delivery View:

CREATE VIEW Motorcycle_Delivery AS

SELECT LICENSEID, NAME, BASIC

FROM DELIVERY

WHERE RIDETYPE = 'Motorcycle'

```
CREATE VIEW Motorcycle_Delivery AS
SELECT LICENSEID, NAME, BASIC
FROM DELIVERY
WHERE RIDETYPE = 'Motorcycle'
```

Results | Explain | Describe | Saved SQL | History

LICENSEID	NAME	BASIC
987	Ab	1300
897	Za	1500
937	Bc	1200

Number of tables and seats in each floor view:

CREATE VIEW Floor_Details AS

SELECT Floor, sum (NoSeats) Seats, count(NoSeats) Tables

FROM Tables

group by Floor

```
CREATE VIEW Floor_Details AS
SELECT Floor, sum (NoSeats) Seats, count(NoSeats) Tables
FROM Tables
group by Floor
```

Results | Explain | Describe | Saved SQL | History

FLOOR	SEATS	TABLES
Second	11	3
First	7	2
Fourth	2	1

Number of chefs in each specialty:

CREATE VIEW Chefs_Specialty AS

SELECT Specialty, count(*) Number_of_chefs

FROM Chef

group by Specialty

```
CREATE VIEW Chefs_Specialty AS
SELECT Specialty, count(*) Number_of_chefs
FROM Chef
group by Specialty
```

Results | Explain | Describe | Saved SQL | History

SPECIALTY	NUMBER_OF_CHEFS
Meat	2
Sweet	2