Yelp Business Data Analysis

COP 5725

Spring 2019
Instructor: Dr. Markus Schneider

Project Phase - III

Group 24

Group Members:

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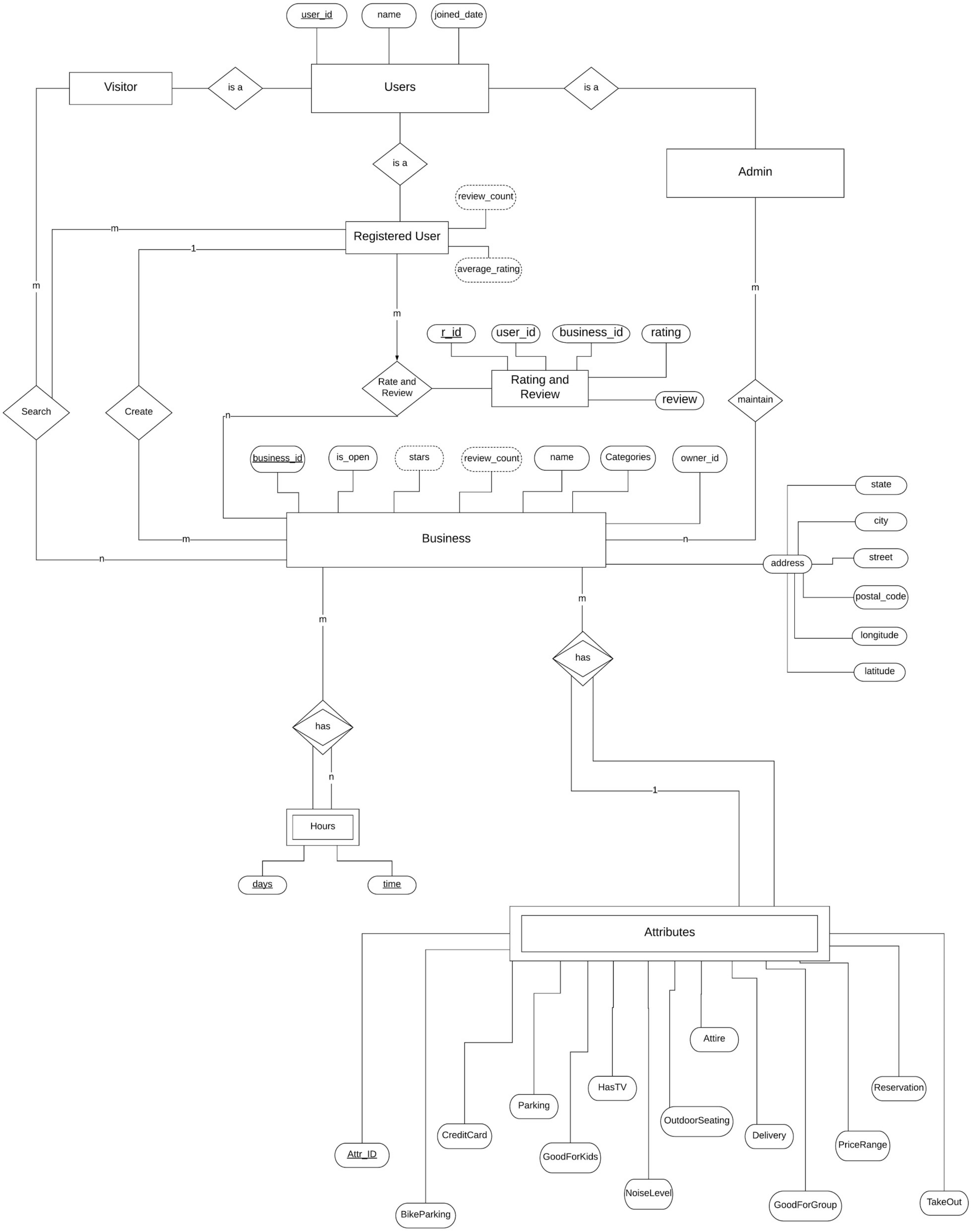
ER Diagram:


user_id
name
joined_date
Visitor
is a
Users
is a
is a
Admin
review_count
Registered User
m
1
average_rating
m
m
m
r_id
user_id
business_id
rating
Rate and Review
Rating and Review
review
n
Search
Create
maintain
business_id
is_open
stars
review_count
name
Categories
owner_id
state
city
street
address
postal_code
longitude
latitude
Business
m
n
n
m
m
has
has
n
1
Hours
days
time
Attributes
Attire
Reservation
HasTV
Parking
OutdoorSeating
Delivery
PriceRange
CreditCard
GoodForKids
Attr_ID
NoiseLevel
GoodForGroup
TakeOut
BikeParking

Modifications:
We have made a few modifications to the ER diagram.
We have added RateAndReviews as a seperate entity since we need to store them. The number of ratings and reviews is in multiples of the number of businesses and hence we need a seperate table to store them. Also, few changes have been made to the attributes of Hours since the previous attributes were not capable of capturing the full scope of this weak entity.

RELATIONAL DATA MODEL:

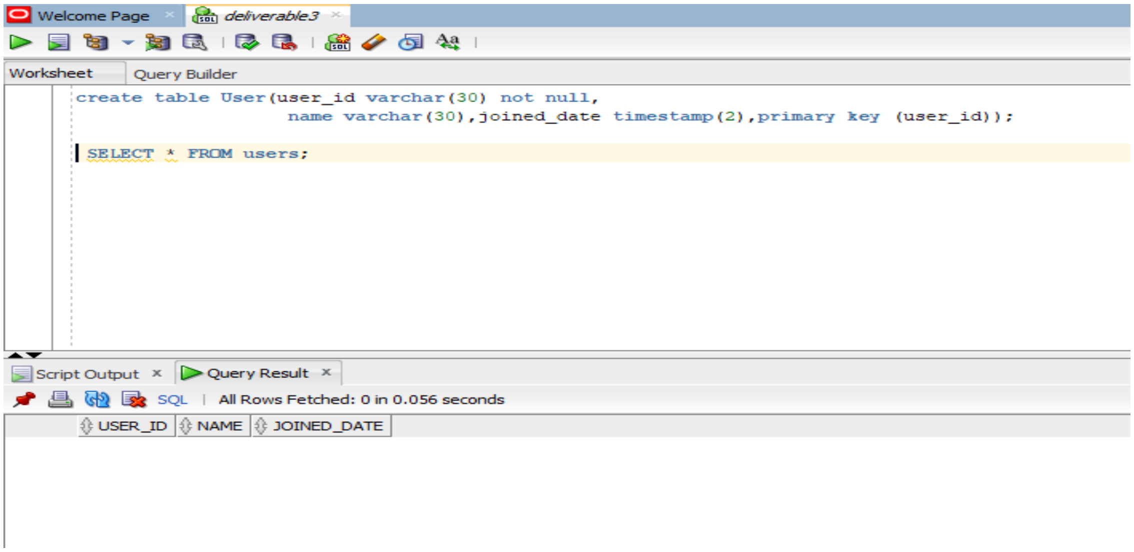
- Users(user_id : String, name : String, joined_date: Timestamp)
- Admin(user_id : String)
- RegisteredUser(user_id : String, review_count : Integer, average_rating : Integer)
- RateandReview(r_id : String, user_id :String, business_id : String, rating : Integer, review : String)
- Visitor(user_id : String)
- Business(business_id : String, owner_id :String, Is_open : Bool, stars : Integer, review_count : Integer, name : String, categories :String, state : String, city : String, street : String, postal_code: Integer, longitude : Float , Latitude : Float)
- Hours(business_id : String , days :String, time : String)
- Attributes(attr_id : String, BikeParking : Bool, CreditCard : Bool, Parking : Bool, GoodForKids : Bool, OutdoorSeating : Bool, Attire : String, Delivery : Bool, GoodForGroup : Bool, PriceRange: Integer, Reservation : Bool, TakeOut : Bool, BusinessID : String)

Queries and Screen-shots

- **Users Table**

  Sql query:

```
create table User(user_id varchar(30) not null,
              name varchar(30),joined_date timestamp(2),primary key (user_id));

 SELECT * FROM users;
```



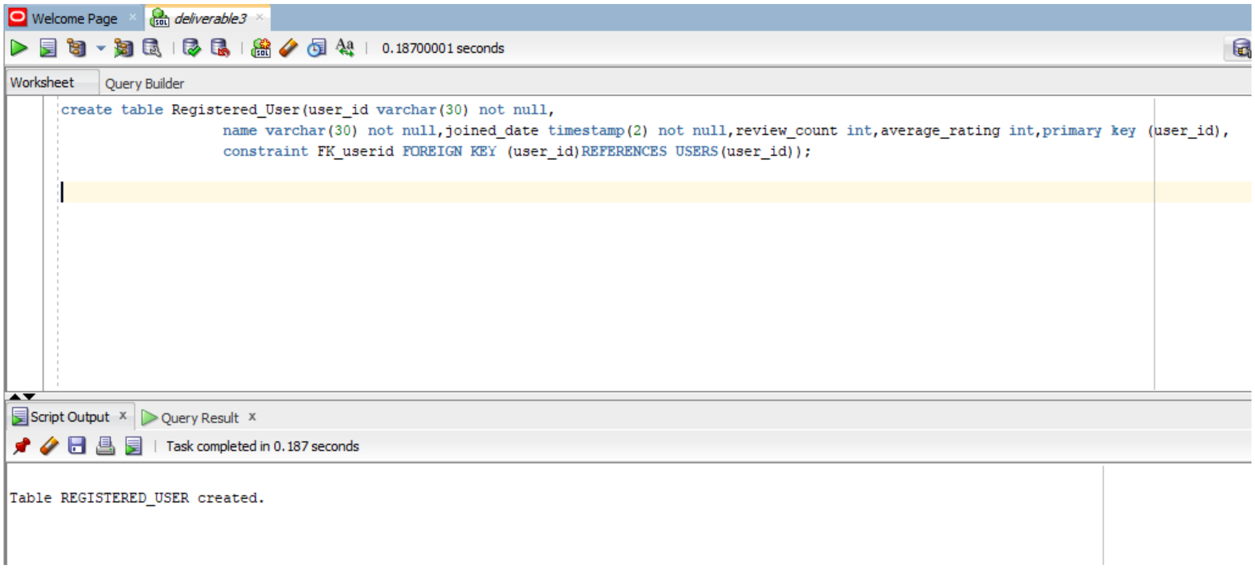
```
create table User(user_id varchar(30) not null,
                 name varchar(30),joined_date timestamp(2),primary key (user_id));

SELECT * FROM users;
```

```
All Rows Fetched: 0 in 0.056 seconds
USER_ID  NAME  JOINED_DATE
```

- **Registered_User Table**

Sql query:

```
create table Registered_User(user_id varchar(30) not null,
                    name varchar(30) not null,joined_date timestamp(2) not null,review_count
int,average_rating int,primary key (user_id),
                    constraint FK_userid FOREIGN KEY (user_id)REFERENCES USERS(user_id));
```



```
0.18700001 seconds
```

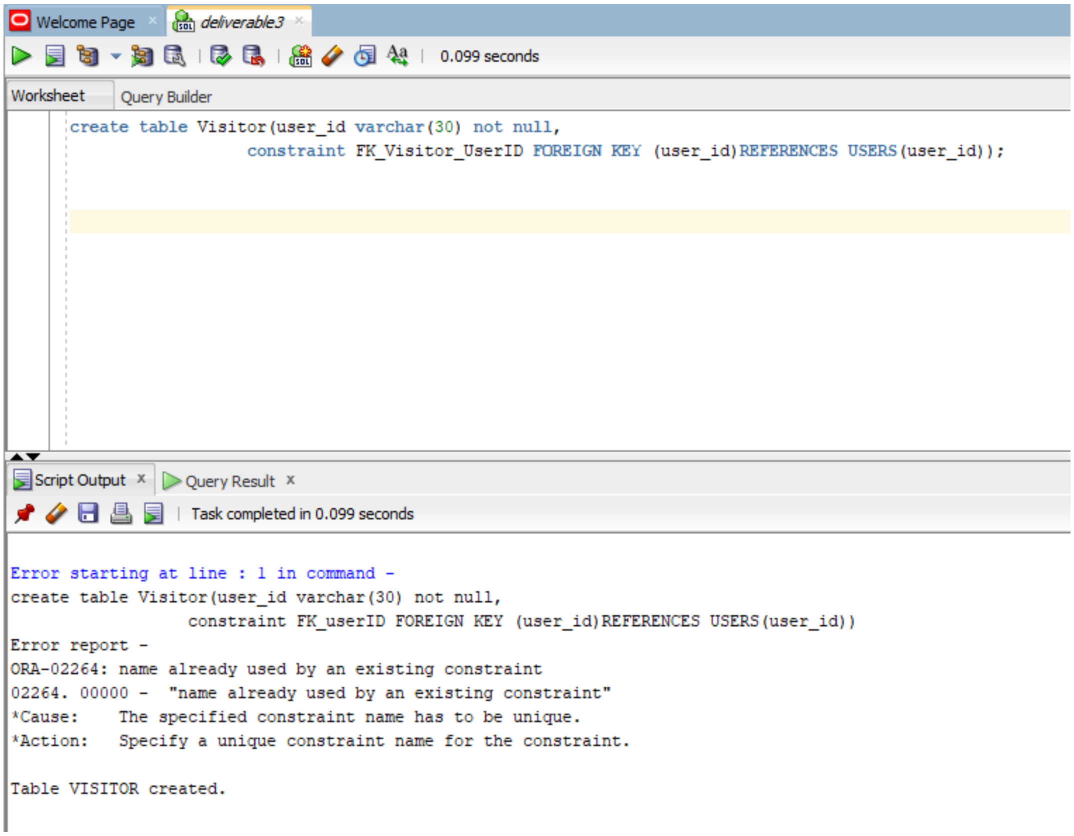
```
create table Registered_User(user_id varchar(30) not null,
                    name varchar(30) not null,joined_date timestamp(2) not null,review_count int,average_rating int,primary key (user_id),
                    constraint FK_userid FOREIGN KEY (user_id)REFERENCES USERS(user_id));
```

```
Task completed in 0.187 seconds

Table REGISTERED_USER created.
```

- **Visitor Table**

Sql query:

```
create table Visitor(user_id varchar(30) not null,
                   constraint FK_Visitor_UserID FOREIGN KEY (user_id)REFERENCES USERS(user_id));
```

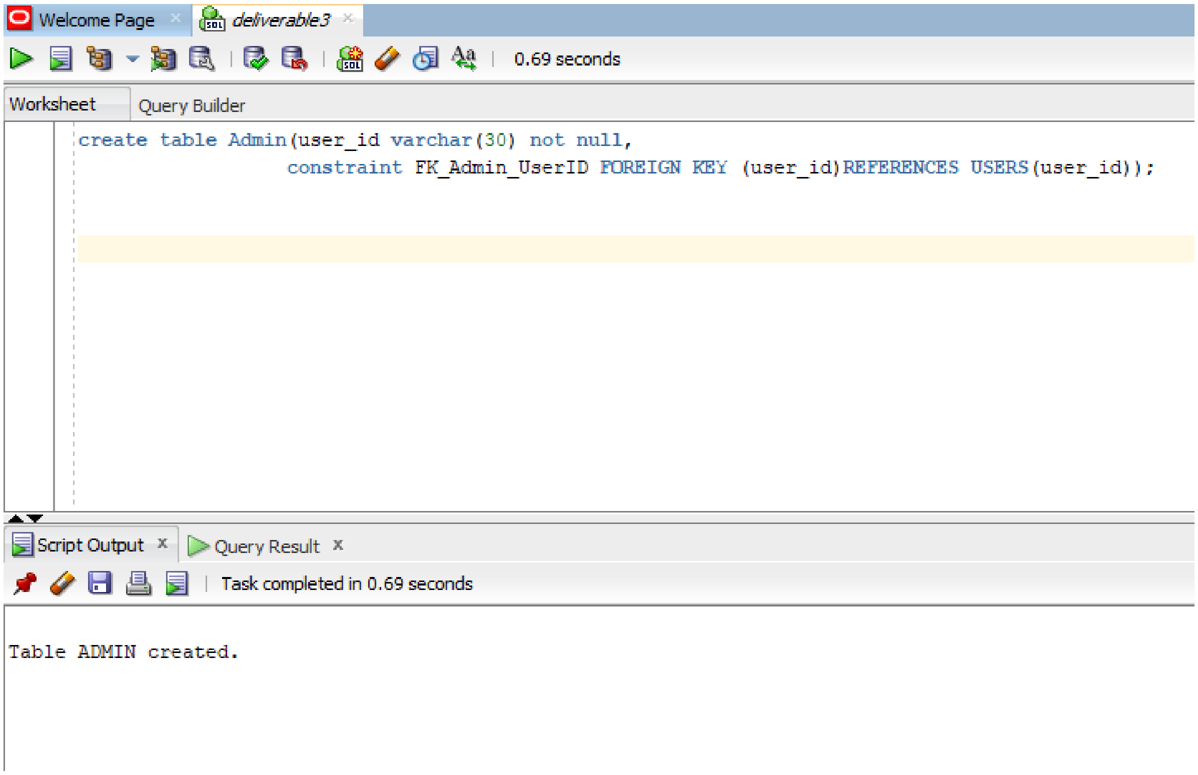


```
create table Visitor(user_id varchar(30) not null,
                    constraint FK_Visitor_UserID FOREIGN KEY (user_id)REFERENCES USERS(user_id));
```

```
Error starting at line : 1 in command -
create table Visitor(user_id varchar(30) not null,
                    constraint FK_userID FOREIGN KEY (user_id)REFERENCES USERS(user_id))
Error report -
ORA-02264: name already used by an existing constraint
02264. 00000 -  "name already used by an existing constraint"
*Cause:    The specified constraint name has to be unique.
*Action:   Specify a unique constraint name for the constraint.

Table VISITOR created.
```

- **Admin Table**
  Sql query:

  create table Admin(user_id varchar(30) not null,
  constraint FK_Admin_UserID FOREIGN KEY (user_id)REFERENCES USERS(user_id));



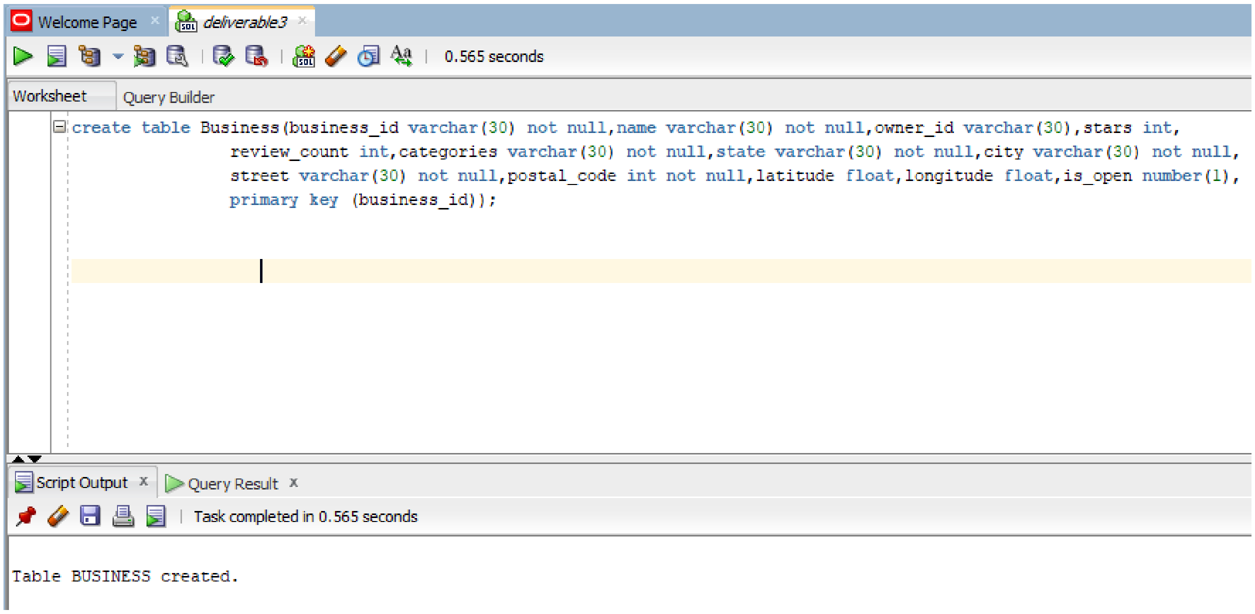
```
create table Admin(user_id varchar(30) not null,
                    constraint FK_Admin_UserID FOREIGN KEY (user_id)REFERENCES USERS(user_id));
```

```
Table ADMIN created.
```

- ## Business Table

Sql query:

create table Business(business_id varchar(30) not null,name varchar(30) not null,owner_id varchar(30),stars int,
review_count int,categories varchar(30) not null,state varchar(30) not null,city varchar(30) not null,
street varchar(30) not null,postal_code int not null,latitude float,longitude float,is_open number(1),
primary key (business_id));



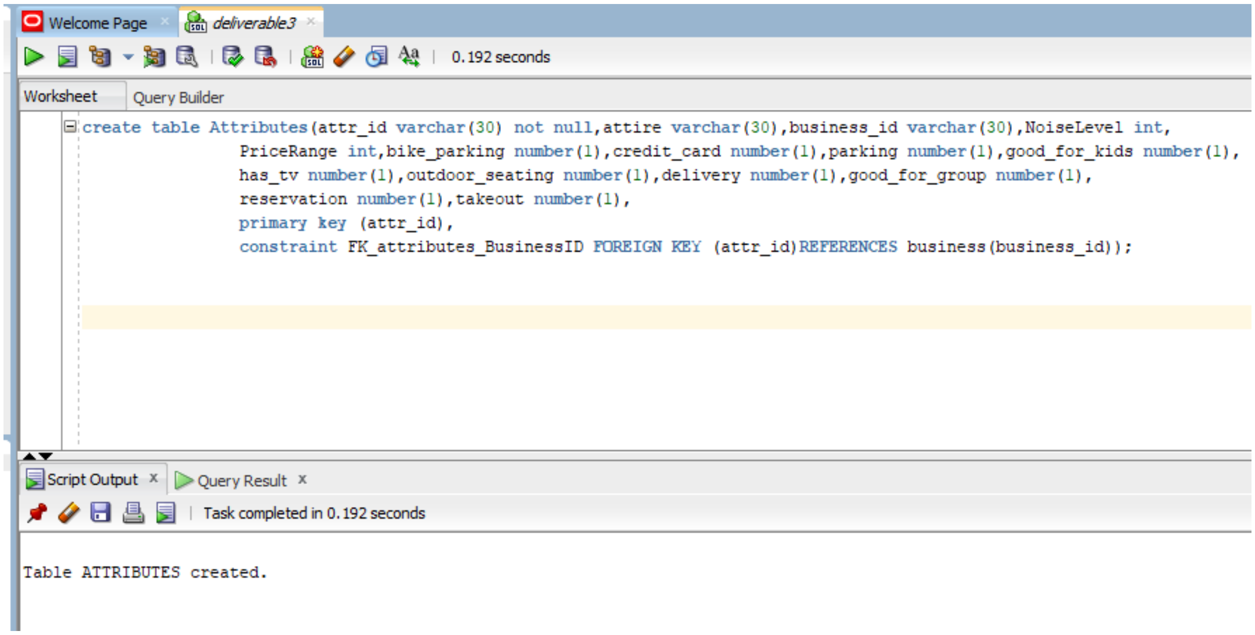
```
create table Business(business_id varchar(30) not null,name varchar(30) not null,owner_id varchar(30),stars int,
                review_count int,categories varchar(30) not null,state varchar(30) not null,city varchar(30) not null,
                street varchar(30) not null,postal_code int not null,latitude float,longitude float,is_open number(1),
                primary key (business_id));
```

```
Table BUSINESS created.
```

- ## Attributes Table

Sql query:

create table Attributes(attr_id varchar(30) not null,attire varchar(30),business_id varchar(30),NoiseLevel int,
PriceRange int,bike_parking number(1),credit_card number(1),parking number(1),good_for_kids number(1),
has_tv number(1),outdoor_seating number(1),delivery number(1),good_for_group number(1),
reservation number(1),takeout number(1),
primary key (attr_id),
constraint FK_attributes_BusinessID FOREIGN KEY (attr_id)REFERENCES business(business_id));



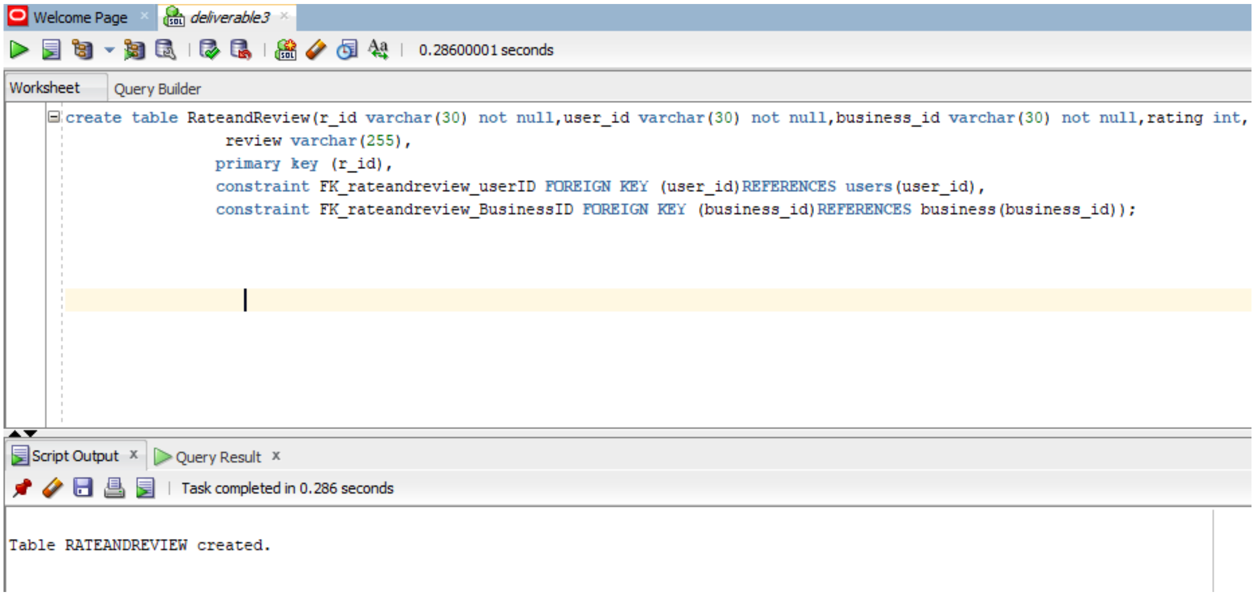
```
create table Attributes(attr_id varchar(30) not null,attire varchar(30),business_id varchar(30),NoiseLevel int,
                PriceRange int,bike_parking number(1),credit_card number(1),parking number(1),good_for_kids number(1),
                has_tv number(1),outdoor_seating number(1),delivery number(1),good_for_group number(1),
                reservation number(1),takeout number(1),
                primary key (attr_id),
                constraint FK_attributes_BusinessID FOREIGN KEY (attr_id)REFERENCES business(business_id));
```

```
Table ATTRIBUTES created.
```

- **RateandReview Table**

Sql query:

```
create table RateandReview(r_id varchar(30) not null,user_id varchar(30) not null,business_id
varchar(30) not null,rating int,
                 review varchar(255),
                primary key (r_id),
                constraint FK_rateandreview_userID FOREIGN KEY (user_id)REFERENCES
users(user_id),
                constraint FK_rateandreview_BusinessID FOREIGN KEY (business_id)REFERENCES
business(business_id));
```



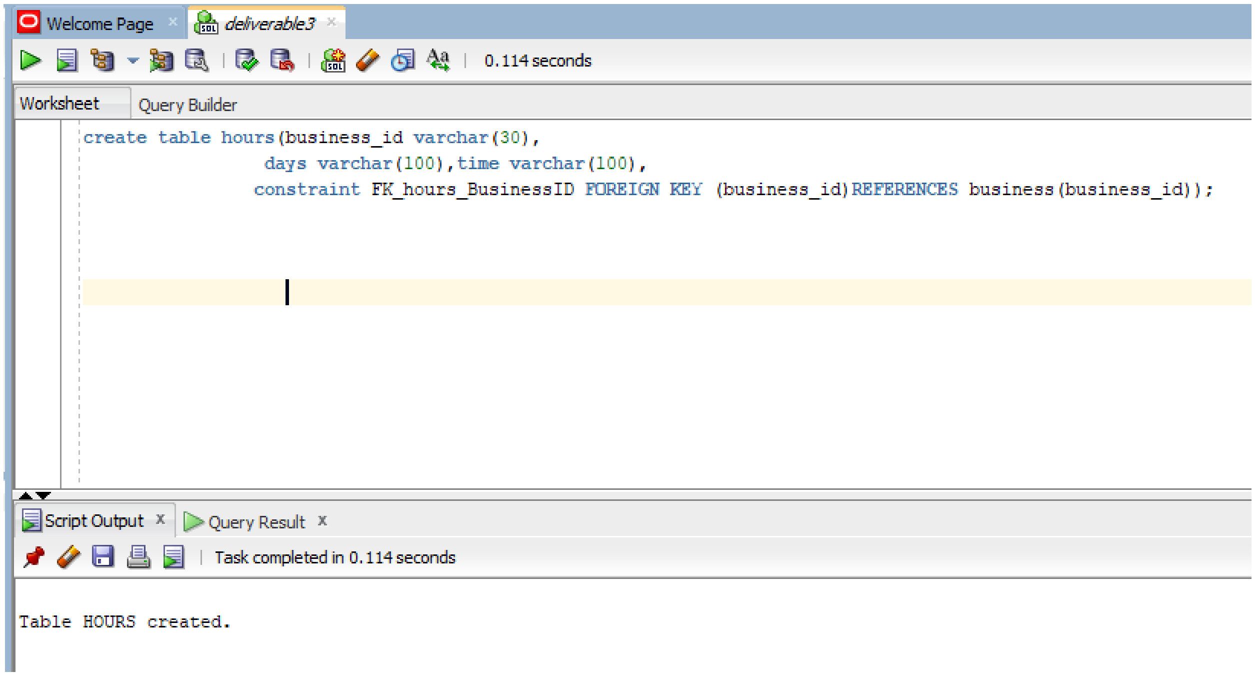
```
create table RateandReview(r_id varchar(30) not null,user_id varchar(30) not null,business_id varchar(30) not null,rating int,
                 review varchar(255),
                primary key (r_id),
                constraint FK_rateandreview_userID FOREIGN KEY (user_id)REFERENCES users(user_id),
                constraint FK_rateandreview_BusinessID FOREIGN KEY (business_id)REFERENCES business(business_id));
```

```
Table RATEANDREVIEW created.
```

- ## Hours Table

Sql query:

```
create table hours(business_id varchar(30),
                   days varchar(100),time varchar(100),
                  constraint FK_hours_BusinessID FOREIGN KEY (business_id)REFERENCES
business(business_id));
```



```
create table hours(business_id varchar(30),
                  days varchar(100),time varchar(100),
                 constraint FK_hours_BusinessID FOREIGN KEY (business_id)REFERENCES business(business_id));
```

Task completed in 0.114 seconds

```
Table HOURS created.
```

References:

1. www.lucidchart.com for ER diagram .