College Park FoodAdvisor

Course: BUDT703 - Database Management System
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Data source: Tripadvisor
References: https://www.tripadvisor.com/Restaurants-g41078-College_Park_Maryland.html
Tools: Microsoft SQL Server Management Studio, LucidChart

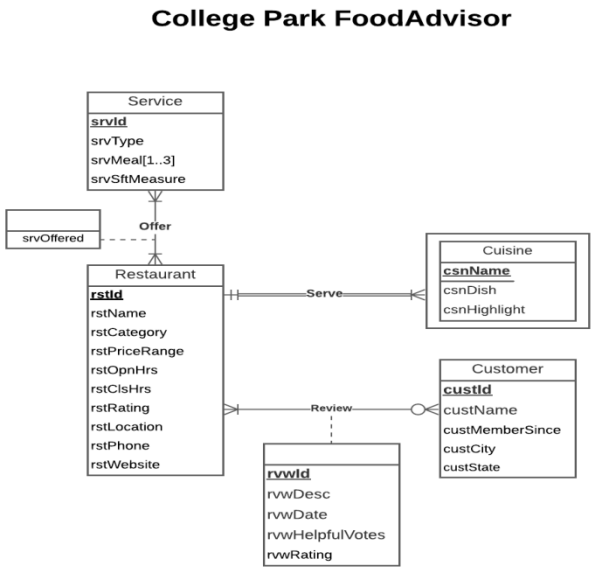
Mission Statement:

To analyze the reviews of various restaurants at College Park written by the customers who have visited the restaurants in order to help future customers decide on which restaurant to visit.

Mission Objectives:

- To find the restaurants that serve ‘American’ cuisine and what is their cuisine highlight
- To find the restaurant that serves ‘Sushi’ and has the highest review rating
- To find the restaurants that offer late night service and till what time will they be operating
- To find the the best affordable restaurants that offer takeout option for dinner in College Park
- To find the establishments in College Park that offer Bar service
- To find the latest reviews for every restaurant
- To find the mid-range restaurants that offer lunch service

Steps for Database Design:



LucidChart:

1. First, we created a new blank document on Lucidchart.
2. Then, we dragged the entity to the view and renamed it as ‘Restaurant'.
3. Then, we added other entities, named them and made the primary key bold and underlined. If it’s a partial primary key make it double underlined.
4. We then added relationships between each entity depending on their relationship type. In a dependent relationship, the relationship should be denoted with a double line.
5. For the multivalued attribute, we used square brackets to present the possible number of values.
6. We added the attributes of the entities.
7. Also, we edited the entity frame to be two layers for Cuisine because it's a dependent entity.
8. Then we explained the relationships between the entities and added the cardinality constraints for each relationship. For example: the relationship between Restaurant and Cuisine is one-to-many, the relationship between Cuisine and Restaurant is one-to-one.
9. We have added the relationship attributes in a separate rectangle connecting the relation using dotted lines.

DDL:

1. First, we opened the Microsoft SQL server on the VMware Virtual Machine.
2. Then, we selected the SQL Server: doitsqlx.rhsmith.umd.edu,9703
3. Then, we put in our credentials and started the SQL server and selected our project database: BUDT703_Project_0503_08
4. We then created three files, one for DROP commands, one for CREATE commands and one for INSERT INTO commands
5. In the drop table sql file, we wrote the DROP Tables command for each table dropping all the existing data for relations in the database.

```
USE BUDT703_Project_0503_08;

DROP TABLE IF EXISTS [FoodAdvisor.Review];
DROP TABLE IF EXISTS [FoodAdvisor.Offer];
DROP TABLE IF EXISTS [FoodAdvisor.ServedMeal];
DROP TABLE IF EXISTS [FoodAdvisor.Service];
DROP TABLE IF EXISTS [FoodAdvisor.Cuisine];
DROP TABLE IF EXISTS [FoodAdvisor.Customer];
DROP TABLE IF EXISTS [FoodAdvisor.Restaurant];
```

```
Commands completed successfully.

Completion time: 2021-12-11T18:07:53.8794710-05:00
```

Query executed successfully.

6. In the create table sql file, we started by creating [FoodAdvisor.Restaurant] table using the CREATE TABLE command and defined the column/attributes names and their data types inside the command. This was done for all the other tables/relations as well.

```
USE BUDT703_Project_0503_08;

CREATE TABLE [FoodAdvisor.Restaurant] (
    rstId VARCHAR(10) NOT NULL,
    rstName VARCHAR(30),
    rstCategory VARCHAR(20),
    rstPriceRange VARCHAR(20),
    rstOpnHrs TIME,
    rstClsHrs TIME,
    rstRating DECIMAL(2,1),
    rstLocation VARCHAR(100),
    rstPhone CHAR(11),
    rstWebsite VARCHAR(100),
    CONSTRAINT pk_Restaurant_rstId PRIMARY KEY (rstId) )

CREATE TABLE [FoodAdvisor.Customer] (
    custId VARCHAR(20) NOT NULL,
    custName VARCHAR(20),
    custMenberSince CHAR(4),
    custCity VARCHAR(20),
    custState VARCHAR(20),
    CONSTRAINT pk_Customer_custId PRIMARY KEY (custId)
    )

CREATE TABLE [FoodAdvisor.Cuisine](
    rstId VARCHAR(10) NOT NULL,
    csnName VARCHAR(50) NOT NULL,
    csnDish VARCHAR(50),
```

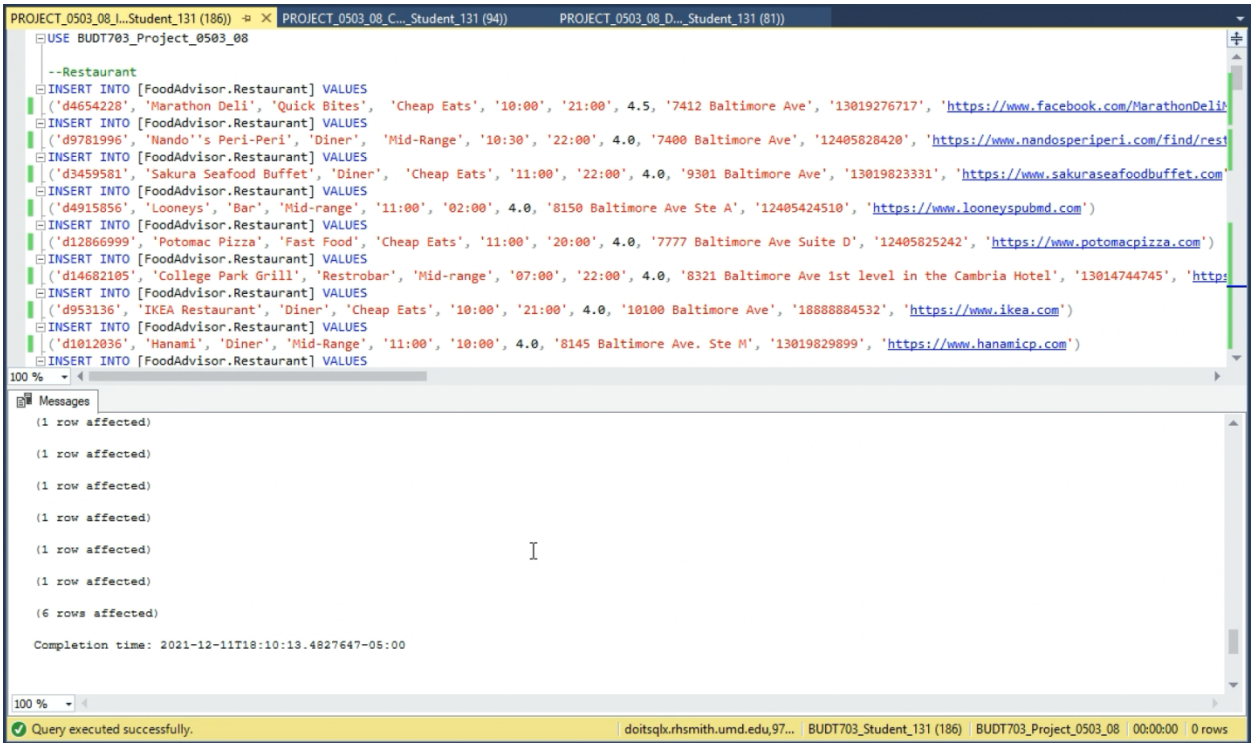
```
Commands completed successfully.

Completion time: 2021-12-11T18:08:09.2496385-05:00
```

Query executed successfully.

Following are the Relation, their attributes, data type and key constraints as defined in the database:

S.No.	Relation	Attribute	Datatype	Constraint
1	Restaurant	rstId	VARCHAR(10)	PK
		rstName	VARCHAR(30)	
		rstCategory	VARCHAR(20)	
		rstPriceRange	VARCHAR(20)	
		rstOpnHrs	TIME	
		rstClsHrs	TIME	
		rstRating	DECIMAL(2,1)	
		rstLocation	VARCHAR(100	
		rstPhone	CHAR(11)	
		rstWebsite	VARCHAR(100)	
2	Customer	custId	VARCHAR(20)	PK
		custName	VARCHAR(20)	
		custMenberSince	CHAR(4)	
		custCity	VARCHAR(20)	
		custState	VARCHAR(20)	
3	Cuisine	rstId	VARCHAR(10)	FK,PK
		csnName	VARCHAR(50)	PK
		csnDish	VARCHAR(50)	
		csnHighlight	VARCHAR(50)	
4	Service	srvId	CHAR(3)	PK
		srvType	VARCHAR(20)	
		srvSftMeasure	VARCHAR(20)	
5	ServedMeal	srvId	CHAR(3)	FK, PK
		srvMeal	VARCHAR(20)	PK
6	Offer	rstId	VARCHAR(10)	FK, PK
		srvId	CHAR(3)	FK, PK
		srvOffered	VARCHAR(50)	
7	Review	rstId	VARCHAR(10)	FK
		custId	VARCHAR(20)	FK
		rvwId	CHAR(10)	PK
		rvwDesc	VARCHAR(MAX)	
		rvwDate	DATE	
		rvwHelpfulVotes	INTEGER	
		rvwRating	DECIMAL(2,1)	

7. Then, we began inserting the data into the tables created, which was collected manually from tripadvisor's website. This was done using the INSERT INTO command on sql for every relation.



DML:

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3. Then, we put in our credentials and started the SQL server and selected our project database: BUDT703_Project_0503_08
4. We then created a New Query
5. Based on the tables that we created and the values that we inserted into the DDL part of our project, we started writing the queries to execute the mission objectives mentioned in our proposal
6. Then, finally we executed the queries to get the following outputs:

What are the restaurants that serve 'American' cuisine and what is their cuisine highlight?

	rstId	rstName	csnName	csnHighlight
1	d14682105	College Park Grill	American	Grilled Steak
2	d4915856	Looneys	American	BLUEBERRY KAMIKAZE

Which restaurant serves 'Sushi' and has the best consumer ratings?

Results | Messages

	rstName	csnHighlight	customer_rating
1	Hanami	Sushi	4.00

What are the restaurants that offer late night service and till what time will they be operating?

	rstName	rstClsHrs	srvOffered
1	Looneys	02:00:00.0000000	Late Night

Which are the best affordable restaurants that offer takeout options for dinner?

Results | Messages

	rstName	rstPriceRange	srvType	srvMeal
1	Marathon Deli	Cheap Eats	Takeout	Dinner
2	Blaze Fast Fired Pizza	Cheap Eats	Takeout	Dinner
3	IKEA Restaurant	Cheap Eats	Takeout	Dinner

Which establishments in College Park offer Bar service?

	rstId	rstName	rstCategory	rstPriceRange	rstOpnHrs	rstClsHrs	rstRating	rstLocation	rstPhone	rstWebsite
1	d14682105	College Park Grill	Restrobar	Mid-range	07:00:00.0000000	22:00:00.0000000	4.0	8321 Baltimore Ave 1st level in the Cambria Hotel	13014744745	https://www.collegeparkgrill.com
2	d4915856	Looneys	Bar	Mid-range	11:00:00.0000000	02:00:00.0000000	4.0	8150 Baltimore Ave Ste A	12405424510	https://www.looneyspubmd.com

What are the latest reviews for every restaurant?

	rstId	rstName	rvwDesc	rvwDate
1	d4654228	Marathon Deli	Marathon Deli is one of the staples of my time in Col...	2021-06-03
2	d9781996	Nando's Peri-Peri	This place is great. They have pitcher cocktails, dole...	2019-06-18
3	d3459581	Sakura Seafood Buffet	I don't know what other kinds of buffets the previous ...	2019-06-06
4	d953136	IKEA Restaurant	We have lived abroad and here and after a couple o...	2020-03-16
5	d1012036	Hanami	A great experience. The food was tremendous and t...	2021-09-12
6	d7303584	Blaze Fast Fired Pizza	I went here on my birthday and an employee gave ...	2020-10-11
7	d4915856	Looneys	Me & my husband sat at the bar. It was a Tues nite d...	2021-05-08
8	d12866999	Potomac Pizza	Not to sound cheesy (get it), but this is the best pizza...	2021-06-27
9	d14682105	College Park Grill	This was a wonderful restaurant for being able to tal...	2019-12-22

Which mid-range restaurants offer lunch service?

	rstName	rstPriceRange	srvMeal
1	Hanami	Mid-Range	Lunch
2	College Park Grill	Mid-range	Lunch
3	Looneys	Mid-range	Lunch
4	Nando's Peri-Peri	Mid-Range	Lunch