HW 2. DB Design - Solution

# Part 1.

# Create the schema if necessary.

CREATE SCHEMA IF NOT EXISTS ReviewApplication;

USE ReviewApplication;

DROP TABLE IF EXISTS Reservations;

DROP TABLE IF EXISTS Recommendations;

DROP TABLE IF EXISTS Reviews;

DROP TABLE IF EXISTS FoodCartRestaurant;

DROP TABLE IF EXISTS TakeOutRestaurant;

DROP TABLE IF EXISTS SitDownRestaurant;

DROP TABLE IF EXISTS Restaurants;

DROP TABLE IF EXISTS Companies;

DROP TABLE IF EXISTS CreditCards;

DROP TABLE IF EXISTS Users;

CREATE TABLE Users (

UserName VARCHAR(255),

Password VARCHAR(255) NOT NULL,

FirstName VARCHAR(255) NOT NULL,

LastName VARCHAR(255) NOT NULL,

Email VARCHAR(255) NOT NULL,

Phone VARCHAR(255),

CONSTRAINT pk\_Users\_UserName PRIMARY KEY (UserName)

);

CREATE TABLE CreditCards (

CardNumber BIGINT,

Expiration DATE NOT NULL,

UserName VARCHAR(255) NOT NULL,

CONSTRAINT pk\_CreditCards\_CardNumber PRIMARY KEY (CardNumber),

CONSTRAINT fk\_CreditCards\_Username FOREIGN KEY (UserName)

REFERENCES Users(UserName)

ON UPDATE CASCADE ON DELETE CASCADE

);

CREATE TABLE Companies (

CompanyName VARCHAR(255),

About VARCHAR(1024),

CONSTRAINT pk\_Companies\_CompanyName PRIMARY KEY (CompanyName)

);

CREATE TABLE Restaurants (

RestaurantId INT AUTO\_INCREMENT,

Name VARCHAR(255) NOT NULL,

Description VARCHAR(1024) NOT NULL,

Menu VARCHAR(1024) NOT NULL,

Hours VARCHAR(1024) NOT NULL,

Active BOOLEAN NOT NULL,

CuisineType ENUM('AFRICAN', 'AMERICAN', 'ASIAN', 'EUROPEAN', 'HISPANIC'),

Street1 VARCHAR(255) NOT NULL,

Street2 VARCHAR(255),

City VARCHAR(255) NOT NULL,

State VARCHAR(255) NOT NULL,

Zip INT NOT NULL,

CompanyName VARCHAR(255),

CONSTRAINT pk\_Restaurants\_RestaurantId PRIMARY KEY (RestaurantId),

CONSTRAINT fk\_Restaurants\_CompanyName FOREIGN KEY (CompanyName)

REFERENCES Companies(CompanyName)

ON UPDATE CASCADE ON DELETE SET NULL

);

CREATE TABLE SitDownRestaurant (

RestaurantId INT,

Capacity INT NOT NULL,

CONSTRAINT pk\_SitDownRestaurant\_RestaurantId PRIMARY KEY (RestaurantId),

CONSTRAINT fk\_SitDownRestaurant\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES Restaurants(RestaurantId)

ON UPDATE CASCADE ON DELETE CASCADE

);

CREATE TABLE TakeOutRestaurant (

RestaurantId INT,

MaxWaitTime INT NOT NULL,

CONSTRAINT pk\_TakeOutRestaurant\_RestaurantId PRIMARY KEY (RestaurantId),

CONSTRAINT fk\_TakeOutRestaurant\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES Restaurants(RestaurantId)

ON UPDATE CASCADE ON DELETE CASCADE

);

CREATE TABLE FoodCartRestaurant (

RestaurantId INT,

Licensed BOOLEAN NOT NULL,

CONSTRAINT pk\_FoodCartRestaurant\_RestaurantId PRIMARY KEY (RestaurantId),

CONSTRAINT fk\_FoodCartRestaurant\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES Restaurants(RestaurantId)

ON UPDATE CASCADE ON DELETE CASCADE

);

CREATE TABLE Reviews (

ReviewId INT AUTO\_INCREMENT,

Created TIMESTAMP DEFAULT CURRENT\_TIMESTAMP NOT NULL,

Content VARCHAR(1024) NOT NULL,

Rating DECIMAL(2,1) NOT NULL,

UserName VARCHAR(255),

RestaurantId INT,

CONSTRAINT pk\_Reviews\_ReviewId PRIMARY KEY (ReviewId),  
 CONSTRAINT uq\_Reviews\_Review UNIQUE (UserName,RestaurantId),

CONSTRAINT fk\_Reviews\_UserName FOREIGN KEY (UserName)

REFERENCES Users(UserName)

ON UPDATE CASCADE ON DELETE SET NULL,

CONSTRAINT fk\_Reviews\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES Restaurants(RestaurantId)

ON UPDATE CASCADE ON DELETE SET NULL

);

CREATE TABLE Recommendations (

RecommendationId INT AUTO\_INCREMENT,

UserName VARCHAR(255),

RestaurantId INT,

CONSTRAINT pk\_Recommendations\_RecommendationId PRIMARY KEY (RecommendationId),

CONSTRAINT fk\_Recommendations\_UserName FOREIGN KEY (UserName)

REFERENCES Users(UserName)

ON UPDATE CASCADE ON DELETE SET NULL,

CONSTRAINT fk\_Recommendations\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES Restaurants(RestaurantId)

ON UPDATE CASCADE ON DELETE SET NULL

);

CREATE TABLE Reservations (

ReservationId INT AUTO\_INCREMENT,

Start TIMESTAMP NOT NULL,

End TIMESTAMP NOT NULL,

Size INT NOT NULL,

UserName VARCHAR(255),

RestaurantId INT,

CONSTRAINT pk\_Reservations\_ReservationId PRIMARY KEY (ReservationId),

CONSTRAINT fk\_Reservations\_UserName FOREIGN KEY (UserName)

REFERENCES Users(UserName)

ON UPDATE CASCADE ON DELETE CASCADE,

CONSTRAINT fk\_Reservations\_RestaurantId FOREIGN KEY (RestaurantId)

REFERENCES SitDownRestaurant(RestaurantId)

ON UPDATE CASCADE ON DELETE CASCADE

);

# Part 2.

USE ReviewApplication;

INSERT INTO Users(UserName,Password,FirstName,LastName,Email,Phone)

VALUES('Bruce','password','Bruce','C','bruce@mail.com','5555555');

INSERT INTO Users(UserName,Password,FirstName,LastName,Email,Phone)

VALUES('TT','password','Tony','D','tony@mail.com','5555555');

INSERT INTO Users(UserName,Password,FirstName,LastName,Email,Phone)

VALUES('DK','password','Daniel','K','dan@mail.com','5555555');

INSERT INTO Users(UserName,Password,FirstName,LastName,Email,Phone)

VALUES('James','password','James','M','james@mail.com','5555555');

INSERT INTO Users(UserName,Password,FirstName,LastName,Email,Phone)

VALUES('Steve','password','Steve','N','steve@mail.com','5555555');

INSERT INTO Companies(CompanyName,About)

VALUES('company1','about company1');

INSERT INTO Companies(CompanyName,About)

VALUES('company2','about company2');

INSERT INTO Companies(CompanyName,About)

VALUES('company3','about company3');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant1','about restaurant','menu','hours',TRUE,'AFRICAN','street1','street2','seattle','wa',98195,'company1');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant2','about restaurant','menu','hours',TRUE,'AMERICAN','street1','street2','seattle','wa',98195,'company1');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant3','about restaurant','menu','hours',TRUE,'ASIAN','street1','street2','seattle','wa',98195,'company1');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant4','about restaurant','menu','hours',TRUE,'EUROPEAN','street1','street2','seattle','wa',98195,'company1');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant5','about restaurant','menu','hours',TRUE,'HISPANIC','street1','street2','seattle','wa',98195,'company1');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant6','about restaurant','menu','hours',TRUE,'HISPANIC','street1','street2','bellevue','wa',98008,'company2');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant7','about restaurant','menu','hours',TRUE,'HISPANIC','street1','street2','bellevue','wa',98008,'company2');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant8','about restaurant','menu','hours',TRUE,'HISPANIC','street1','street2','bellevue','wa',98008,'company2');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant9','about restaurant','menu','hours',FALSE,'AMERICAN','street1','street2','bellevue','wa',98008,'company2');

INSERT INTO Restaurants(Name,Description,Menu,Hours,Active,CuisineType,Street1,Street2,City,State,Zip,CompanyName)

VALUES('restaurant10','about restaurant','menu','hours',TRUE,'AMERICAN','street1','street2','bellevue','wa',98008,'company3');

INSERT INTO SitDownRestaurant(RestaurantId,Capacity)

VALUES(1,100);

INSERT INTO SitDownRestaurant(RestaurantId,Capacity)

VALUES(2,200);

INSERT INTO SitDownRestaurant(RestaurantId,Capacity)

VALUES(3,200);

INSERT INTO TakeOutRestaurant(RestaurantId,MaxWaitTime)

VALUES(4,60);

INSERT INTO TakeOutRestaurant(RestaurantId,MaxWaitTime)

VALUES(5,90);

INSERT INTO FoodCartRestaurant(RestaurantId,Licensed)

VALUES(6,TRUE);

INSERT INTO FoodCartRestaurant(RestaurantId,Licensed)

VALUES(7,TRUE);

INSERT INTO FoodCartRestaurant(RestaurantId,Licensed)

VALUES(8,TRUE);

INSERT INTO FoodCartRestaurant(RestaurantId,Licensed)

VALUES(9,TRUE);

INSERT INTO FoodCartRestaurant(RestaurantId,Licensed)

VALUES(10,FALSE);

INSERT INTO Reviews(Content,Rating,UserName,RestaurantId)

VALUES('Delightful!',5.0,'Bruce',1);

INSERT INTO Reviews(Content,Rating,UserName,RestaurantId)

VALUES('Superb!',5.0,'Bruce',2);

INSERT INTO Reviews(Content,Rating,UserName,RestaurantId)

VALUES('Superb!',5.0,'Bruce',3);

INSERT INTO Reviews(Content,Rating,UserName,RestaurantId)

VALUES('Not good',1.0,'James',9);

INSERT INTO Reviews(Content,Rating,UserName,RestaurantId)

VALUES('Not good at all',1.0,'James',10);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('Bruce',1);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('Bruce',2);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('Bruce',3);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('Bruce',4);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('Bruce',5);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('DK',2);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('DK',3);

INSERT INTO Recommendations(UserName,RestaurantId)

VALUES('TT',3);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-09-05 18:30:00','2015-09-05 20:00:00',2,'Bruce',1);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-09-12 18:30:00','2015-09-12 20:00:00',2,'Bruce',1);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-09-19 18:30:00','2015-09-19 20:00:00',2,'Bruce',1);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-09-20 18:30:00','2015-09-20 20:00:00',2,'Bruce',2);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-09-21 18:30:00','2015-09-21 20:00:00',2,'Bruce',2);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-10-01 18:30:00','2015-10-01 20:00:00',2,'TT',3);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-10-02 18:30:00','2015-10-02 20:00:00',2,'TT',1);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-10-03 18:30:00','2015-10-03 20:00:00',2,'TT',3);

INSERT INTO Reservations(Start,End,Size,UserName,RestaurantId)

VALUES('2015-10-04 18:30:00','2015-10-04 20:00:00',2,'TT',3);

LOAD DATA INFILE '/tmp/creditcards.csv' INTO TABLE CreditCards

# Fields are not quoted.

FIELDS TERMINATED BY ','

# Windows platforms may need '\r\n'.# # Windows platforms may need '\r\n'.

LINES TERMINATED BY '\n'

IGNORE 1 LINES;

/\*\*

Contents of creditcards.csv:

CardNumber,Expiration,UserName

3499432187650987,2018-10-01,Bruce

3488432187650987,2018-10-01,Bruce

3799432187650987,2018-10-01,Bruce

6011432187650987,2018-10-01,Bruce

6011432187650988,2018-10-01,Bruce

6441432187650987,2018-10-01,Bruce

6451432187650987,2018-10-01,Bruce

5199432187650987,2018-10-01,Bruce

5499432187650987,2018-10-01,Bruce

5499432187650988,2018-10-01,Bruce

5499432187650989,2018-10-01,Bruce

4499432187650987,2018-10-01,Bruce

4499432187650989,2018-10-01,Bruce

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