CPSC 4620 Project:
Part 2 – Database Implementation

Due: Monday 11/6 @ 11:59 pm

100 pts

For this stage of the project you will use your ERD from Part 1 to build the database for the Pizzas-R-Us Pizzeria in MySQL. For the database create and use the schema: **Pizzeria**.

Requirements:

1. Create an SQL script that has the create statements necessary to build the tables for your database. Remember to include any constraints that you need for the database. Run the SQL script in MySQL to create your database**.** This script should include SQL to create the database schema. **Name this file "CreateTables.sql"**
2. Create an SQL script that has the insert statements necessary to populate your database with the provided data (see additional info below for the data). **Note**: This will get a little tedious to insert all the data in the correct tables. I tried to find a way to automate it or make it easier, but there's not a way without knowing your specific database design. Copy and Paste will be your friend. **Name this file "PopulateData.sql"**
3. Create an SQL script that just contains a "SELECT * FROM …" command for each table in your database. **Name this file "ViewTables.sql"**
4. Create an SQL script that will DROP each table in your database. This will be helpful for you to run when there are errors in your create file or insert file and you need to re-run everything. Steps 3 and 4 will make it easier to grade your submission as well. **Name this file "DropTables.sql"**
5. Create an SQL script that maps your tables onto a set of standard views. You must the create 3 views described in Part 1 with the following view names and column names.
    - ToppingPopularity: rank order of all the toppings (accounting for extra toppings) from most popular to least popular

Topping	ToppingCount
Pepperoni	10
Regular Cheese	10
Four Cheese Blend	7
Chicken	3
Mushrooms	3
Sausage	2
Banana Peppers	2
Pineapple	2
Black Olives	2
Roma Tomato	2
Onion	2
Green Pepper	2
Ham	2
Feta Cheese	1
Goat Cheese	1
Bacon	1
Jalapenos	0

- ProfitByPizza: a summary of the profit by pizza size and crust type over a selected time period ordered by profit from most profitable to least profitable

Size	Crust	Profit	Order Month
Small	Original	5.53	4/2023
Medium	Pan	10.62	4/2023
XLarge	Gluten-Free	19.57	3/2023
XLarge	Original	62.57	4/2023
Large	Original	69.48	3/2023
Large	Thin	70.89	3/2023

- ProfitByOrderType: a summary of the profit for each of the three types of orders by month with a grand total over all the orders at the pizzeria ordered by customer type and profit.

customerType	Order Month	TotalOrderPrice	TotalOrderCost	Profit
dinein	3/2023	39.53	8.31	31.22
pickup	3/2023	116.70	27.68	89.02
delivery	4/2023	128.02	34.86	93.16
	Grand Total	284.25	70.85	213.40

DO NOT Change the view names or the column names shown above. Your results should match once you have populated the database with the orders and data specified below. You must include a "SELECT * FROM …" command for each of the views. **Name this file "CreateViews.sql"** If you've populated your tables correctly, your view output will match the output shown!

Notes:

MySQL has an auto increment feature (as discussed in class); it will be very useful for Primary Key fields where there is not a natural primary key in the data. When you do this, you will not know what the key value is and won't be able to reference it in later insert statements in a foreign key field. There are ways around this such as selecting the key data from the primary key table as part of your insert into the FK. Make sure that all of your script files contain the appropriate code to select the correct schema.

Help:

Use MS Teams to ask questions. **Do not wait until the last day to ask questions or get started!**

Submission

You will submit your assignment via Gradescope. You must zip the 5 files (**CreateTables.sql, PopulateData.sql, ViewTables.sql, DropTables.sql and CreateViews.sql)** together and upload them via Gradescope. When submitting to Gradescope you must indicate who your partner is (if you have one). Only 1 partner needs to make the submission. **At the top of each .sql file should be a comment with the name(s) of the individual(s) that developed the script**. If you do not use the specified file names, points will be deducted. Gradescope will run your submission against a new AWS RDS database. MAKE SURE YOUR SQL RUNS! You can upload as many times as you like to see the autograder results. FYI, not all the test cases will be visible to you.

CHEATING:
Don't do it! The only way to learn the material is to do your own work…so DO IT! You are expected to do your own work, possibly in collaboration with ONE partner. Plagiarism detection will be run on the submitted solutions.

Groups:
You may work as an individual, or work with **one partner** for this project. I encourage you to work with a partner. **Please note that once you have selected a partner, you are only allowed to work with that partner for the rest of the semester long project.** If you work with someone and decide you do not want to work with them on a later stage, you each have to complete the project on your own. So, pick your partner carefully. If you work with a partner, **actually work with them**.

You may only work with one partner. Any larger groups would be violating the academic integrity rules for this class. Any groups that work together would also violate the academic integrity rules. For this assignment, there is not much that can be discussed without violating academic integrity, so it is best not to discuss it with anyone other than your partner. If working with a partner, make sure select your partner when submitting to Gradescope and both partner's names must be included in all the SQL files.

Additional Information:
Initialize your database with the following data:

Toppings:

Toppings					Units Used			
Name	Price per unit	Cost per unit	Inventory	Minimum	Small	Medium	Large	XLarge
Pepperoni	1.25	0.2	100	50	2	2.75	3.5	4.5
Sausage	1.25	0.15	100	50	2.5	3	3.5	4.25
Ham	1.5	0.15	78	25	2	2.5	3.25	4
Chicken	1.75	0.25	56	25	1.5	2	2.25	3
Green Pepper	0.5	0.02	79	25	1	1.5	2	2.5
Onion	0.5	0.02	85	25	1	1.5	2	2.75
Roma Tomato	0.75	0.03	86	10	2	3	3.5	4.5
Mushrooms	0.75	0.1	52	50	1.5	2	2.5	3
Black Olives	0.6	0.1	39	25	0.75	1	1.5	2
Pineapple	1	0.25	15	0	1	1.25	1.75	2
Jalapenos	0.5	0.05	64	0	0.5	0.75	1.25	1.75
Banana Peppers	0.5	0.05	36	0	0.6	1	1.3	1.75
Regular Cheese	0.5	0.12	250	50	2	3.5	5	7
Four Cheese Blend	1	0.15	150	25	2	3.5	5	7
Feta Cheese	1.5	0.18	75	0	1.75	3	4	5.5
Goat Cheese	1.5	0.2	54	0	1.6	2.75	4	5.5
Bacon	1.5	0.25	89	0	1	1.5	2	3

Discounts:

Name	% off	$ off
Employee	15%	
Lunch Special Medium		$1.00
Lunch Special Large		$2.00
Specialty Pizza		$1.50
Happy Hour	10%	
Gameday Special	20%	

Base Prices

Size	Crust	Price	Cost
Small	Thin	3	0.5
Small	Original	3	0.75
Small	Pan	3.5	1
Small	Gluten-Free	4	2
Medium	Thin	5	1
Medium	Original	5	1.5
Medium	Pan	6	2.25
Medium	Gluten-Free	6.25	3
Large	Thin	8	1.25
Large	Original	8	2
Large	Pan	9	3
Large	Gluten-Free	9.5	4
XLarge	Thin	10	2
XLarge	Original	10	3
XLarge	Pan	11.5	4.5
XLarge	Gluten-Free	12.5	6

Orders:

Enter the following orders into the database. You do not need to deduct from the inventory for these orders (it has already been taken into account). The price and cost of each pizza is included for reference. All orders should be marked as completed. Note: These will take multiple insert statements since the data is spread throughout multiple tables. **All dates are for the current year**.

On March 5th at 12:03 pm there was a dine-in order (at table 21) for a large thin crust pizza with Regular Cheese (extra), Pepperoni, and Sausage (Price: $20.75, Cost: $3.68). They used the "Lunch Special Large" discount for the pizza.

On April 3rd at 12:05 pm there was a dine-in order (at table 4). They ordered a medium pan pizza with Feta Cheese, Black Olives, Roma Tomatoes, Mushrooms and Banana Peppers (Price: $12.85, Cost: $3.23). They used the "Lunch Special Medium" and the "Specialty Pizza" discounts for the pizza. They also ordered a small original crust pizza with Regular Cheese, Chicken and Banana Peppers (Price: $6.93, Cost: $1.40).

On March 3rd at 9:30 pm Andrew Wilkes-Krier placed an order for pickup of 6 large original crust pizzas with Regular Cheese and Pepperoni (Price: $14.88, Cost: $3.30 each). Andrew's phone number is 864-254-5861.

On April 20th at 7:11 pm there was a delivery order made by Andrew Wilkes-Krier for 1 xlarge pepperoni and Sausage pizza (Price: $27.94, Cost: $9.19), one xlarge pizza with Ham (extra) and Pineapple (extra) pizza (Price: $31.50, Cost: $6.25), and one xlarge Chicken and Bacon pizza (Price: $26.75, Cost: $8.18). All the pizzas have the Four Cheese Blend on it and are original crust. The order has the "Gameday Special" discount applied to it, and the ham and pineapple pizza has the "Specialty Pizza" discount applied to it. The pizzas were delivered to 115 Party Blvd, Anderson SC 29621. His phone number is the same as before.

On March 2nd at 5:30 pm Matt Engers placed an order for pickup for an xlarge pizza with Green Pepper, Onion, Roma Tomatoes, Mushrooms, and Black Olives on it. He wants the Goat Cheese on it, and a Gluten Free Crust (Price: $27.45, Cost: $7.88). The "Specialty Pizza" discount is applied to the pizza. Matt's phone number is 864-474-9953.

On March 2nd at 6:17 pm Frank Turner places an order for delivery of one large pizza with Chicken, Green Peppers, Onions, and Mushrooms. He wants the Four Cheese Blend (extra) and thin crust (Price: $25.81, Cost: $4.24). The pizza was delivered to 6745 Wessex St Anderson SC 29621. Frank's phone number is 864-232-8944.

On April 13th at 8:32 pm Milo Auckerman ordered two large thin crust pizzas. One had the Four Cheese Blend on it (extra) (Price: $18.00, Cost: $2.75), the other was Regular Cheese and Pepperoni (extra) (Price: $19.25, Cost: $3.25). He used the "Employee" discount on his order. He had them delivered to 8879 Suburban Home, Anderson, SC 29621. His phone number is 864-878-5679.