Assignment 2 – Relational Database

This assignment requires you to design and diagram a database, as well as create, populate, and query the database using SQL. Your mark counts for 15% of your final grade.

Due Date: **Fri, Apr 13th @ 11:59 pm**

Blackboard Submission Requirements:
1. a database diagram in MWB, GIF, JPG, or PDF format
2. a single .SQL file containing all your SQL commands

All work must be your own. Failure to submit an independent assignment will result in a grade of zero.

Description: **Chip Wagon Database** to track Customers, Orders, Items, Employees sales, and reviews

In this assignment you will:
- Plan and create a database diagram
- Build database tables
- Add data to your tables
- Query your tables
- Document your code with comments within your script

Application Requirements:

1. Plan and create a complete database diagram (ERD), preferably using MS Visio or MySQL workbench (you may use any other program you wish but your final submission must be a GIF, JPG, or PDF). The diagram must include:
    a. Primary Keys
    b. Foreign Keys
    c. 2-5 columns per table with Required field indicators where applicable
    d. Accurate Table Relationships where applicable

2. The database should be designed to store the following information. You may need to add additional tables in order to create all the necessary relationships in an efficient manner.
    a. Customers
    b. Orders
    c. Items (the stuff on the menu)
    d. Employees (will be attached to each order)
    e. Reviews (per order only, not for employees)

3. Write CREATE TABLE scripts for all of your tables. Your scripts should include where applicable:
    a. Primary Keys
    b. Foreign Keys
    c. NOT NULL designations
    d. DEFAULT values where applicable

4. Write INSERT scripts to save 3-5 records to each table. Orders needs at least 15-20 entries for the queries to be effective

5. Write the following SELECT queries:
    a. All orders, items grouped by customer
    b. All customers, orders, and reviews ordered by review date (newest first).
    c. All customers and orders, sorted by price of orders highest first.
    d. All the people who have spent the most money. You cannot use LIMIT in case there are more than one customer.
    e. Display the item(s) that is the most popular. You cannot use LIMIT.
    f. Find the average cost of an order.
    g. The number of orders and total amount each employee has sold.
    h. Determine which employee has the highest sales to customer ratio. Meaning add up all the sales of the employee and divided by the number of unique customers.
    i. Two queries of your own choosing that has not been used in this assignment so far. Create a comment to describe what your query is finding.

6. Document each section of your scripts with comments. You do not need to document every single line.

Evaluation Method

Your work will be evaluated based on the quality of your database design & diagram, as well as how your SQL scripts perform when I run them on my own database.

Evaluation Criteria (max 36 marks)

Criteria	0-2	3-4	5-6	7-8	Marks
Table Planning	- Little or no tables	- Partly complete tables	- Mostly complete table structure	- Complete, well-designed table framework & columns	**8**
Relationships	- No create	- Some tables related	- Most tables related correctly	- All necessary relationships created with accurate foreign keys	**4**
Create Tables	- No create	- Some create with some omissions on data type, keys, NULLS	- Mostly complete & accurate tables	- Complete, accurate tables with keys, data types, & NULLs	**4**
Insert Data	- No insert	- Some insert	- Most insert	- All functioning insert	**8**
Select Data	- No select	- Some select	- Most select	- All functioning select	**10**
Code Commenting	- No comments	- Some attempt to explain code	- Most sections clearly explained	- All sections clearly explained	**2**
Total					