CSCI 210 Database Design Project

For this project you will choose a business or use the previously chosen business to design a database through the stages.

# Your business must meet the following requirements:

* It must have 2 or more master or parent tables /Employee/ Customer
* It must have 3 or more child or transaction tables /Order/Product/Delivery

# The project will include the following elements for the chosen business.

1. Introduction and Overview of the database

* The business that I chose was a pizza restaurant business that is a sit-down restaurant that also delivers. The database will be used to identify what customer ordered, when the customer ordered, what the customer ordered, and if its for delivery or sit-down. This will help to make sure the correct food gets delivered to correct person at the correct time.

1. Identify the business rules of this business as it applies to the data

* Deliver on time
* Produce the product in a timely fashion
* Delivery drivers need to fill up the tank when its low
* Maintain a positive attitude
* Count/Collect money after closing

1. Create an Entity Relationship Diagram in crow’s feet notation.



1. Create a relational diagram using a 3 column crow’s feet diagram. Make sure you include all primary and foreign keys and data types on all columns.



1. Create a table in the lab document to identify the primary key for each entity.

|  |  |
| --- | --- |
| ENTITY | PRIMARY KEY |
| Customer | Cus\_ID |
| Employee | Emp\_ID |
| Options | Option\_NAME |
| Order | O\_ID |
| Product | Pro\_ID |
| Product Type | type\_NAME |
| Time Clock | Tm\_ID |

1. Explain and apply the integrity rules for each entity.
   * Cus\_ID -> Customer Id to make sure their unique because you never know they might have the same name.
   * Emp\_ID -> Employee Id to make sure their unique because you never know they might have the same name.
   * Option\_NAME -> I used option\_name because there are only certain names that are available. Nothing can be added or deleted from this data base
   * O\_ID -> Order Id to make sure their order is unique to make sure the order gets to the right person.
   * Pro\_ID -> Product Id to make sure the customers wont get the wrong product.
   * Type\_NAME -> I used type\_name because there are only certain names that are available. Nothing can be added or deleted from this data base
   * Tm\_ID -> Time Clock Id to identify what clock has been used and for what purpose.
2. Use a table in the lab document to define the relationships between each entity. Make sure you list the cardinality of the relationships.

|  |  |  |  |
| --- | --- | --- | --- |
| ENTITY1 | ENTITY2 | RELATIONSHIP | CARDINALITY |
| Order | Customer | Has | 1:N |
| Order | Employee | Has | 1:N |
| Customer | Order | Has | N:1 |
| Employee | Order | Has | N:1 |
| Order | Product | Has | 1:N |
| Product Type | Product | Has | N:1 |
| Product | Order | Has | 1:N |
| Product | Product type | Has | N:1 |
| Employee | Time Clock | Has | N:1 |
| Time Clock | Employee | Has | 1:N |
| Time Clock | Options | Has | N:1 |
| Options | Time Clock | Has | 1:N |

1. Create the database in SQLite.



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Create table Customer (

Cus\_ID INTEGER PRIMARY KEY,

Cus\_FNAME TEXT NOT NULL,

Cus\_LNAME TEXT

Cus\_LOCATION TEXT);

Create table Employee (

emp\_ID INTEGER PRIMARY KEY,

emp\_FNAME TEXT NOT NULL,

emp\_LNAME TEXT,

emp\_TITLE TEXT);

Create table Options (

options\_NAME TEXT PRIMARY KEY);

Create table Order (

O\_ID INTEGER PRIMARY KEY,

cus\_ID INTEGER,

pro\_ID INTEGER,

o\_TIME TEXT);

Create table Product (

pro\_ID INTEGER PRIMARY KEY,

type\_NAME TEXT,

pro\_NAME TEXT,

pro\_COST INTEGER,

pro\_QUANTITY INTEGER);

Create table Product Type (

type\_NAME PRIMARY KEY);

Create table Time Clock (

tm\_ID INTEGER PRIMARY KEY,

emp\_ID INTEGER,

options\_NAME TEXT);

1. Populate the database with at least 5 records in each table, and show the SQL statements used to populate the database.

## You will submit this report along with your completed database and any diagrams you have created.

