

CSC-351/621 – Database Management Systems (DBMS)

Assignment 1 – Relational Database Modeling

Due: Wednesday, February 6th, 2019

Part 1: Conceptual (20 points)

In this task, you are required to think of the high-level design. For example, what tables/entities should exist and what attributes/columns should each entity contain, and the connections between them. In this phase, you are required to recognize entities for each model and the relationships between them.

You will need **ERD Plus** to model this. Can be accessed via: <https://erdplus.com/#/>

You can use *standalone* if you do not wish to sign up.

Using Netflix as an example, create an ERD that meets the below requirements. **Identify the rules and any assumptions you make.**

- Movies(title, director, rating)
- Customers(name, address, credit card)
- Watched - track what movies a customer has watched. Can watch more than 1 time
- Wish List - track the movies the customers plan to watch

Part 2: Relational Schema/Physical (80 points)

Car Dealership

Create an ERD for a car dealership. The dealership sells both new and used cars, and it operates a service facility. Base your design on the following business rules:

- A salesperson may sell many cars, but each car is sold by only one salesperson
- A customer may buy many cars, but each car is bought by only one customer
- A salesperson writes a single invoice for each car he or she sells
- A customer gets an invoice for each car he or she buys
- A customer may come in just to have his or her car serviced; that is, a customer need not buy a car to be classified as a customer
- When a customer takes one or more cars in for repair or service, one service ticket is written for each car
- The car dealership maintains a service history for each of the cars serviced. The service records are referenced by the car's serial number
- A car brought in for service can be worked on by many mechanics, and each mechanic may work on many cars
- A car that is serviced may or may not need parts (e.g., adjusting a carburetor or cleaning a fuel injector nozzle does not require providing new parts)

Deliverables

Hand in a hard copy of your work. You might need to export ERD's to images/PDF, then print them.

In your documentations, if required, include any assumptions you make.

Make sure that, ERD's are clear and easy to ready.