1. Customer
Since person and business have two different key attributes (License vs Tax Number), and they do not share many common attributes, we use the Union type in the customers instead of a disjoint class/subclass.

2. Vehicle
According to the type of each vehicle, each vehicle can be specified into subclass, so it is a total specification. Since one vehicle cannot be two types at the sometime, it is a disjoint specification.

3. User
A user must be an anonymous user or a privileged user, not both, so it is a disjoint total relationship. Each privileged user must have at least one role, so it is a total specification. And since the owner have the functionality of all the roles, he is a salesperson, service writer, manger, inventory clerk at the same time. Thus, it is an overlapping specification relationship.

The “Roles” is a multi-value because the owner will have all other roles. However, the employees can only have one role.

4. Sales Events and the identifying relationships
A sales event will exist only if a vehicle is sold, a customer buys a vehicle, and a salesperson files the events. Hence there are three identifying relationships. A customer can participate in many sales, and a salesperson can file many sales, so the cardinality for their relationship between the sales events are both “1 - N”. However, there is only one vehicle sales in a sales event. The cardinality is “1-1”.

5. Repair event and the identifying relationships
There are two identifying relationships on the repair events, one binary and one ternary. For the binary relationship between service writer and repair events, a repair event will only exist after a writer file it, and a writer can file many repairs event. Therefore, the cardinality is “1-N”.

The ternary relationship indicates a customer drives a car to get the car repaired. According to the lecture video, a particular customer and a particular vehicle, can participate in many repair events, so the cardinality of event is “N”. With a particular event and a particular customer, we can relate one particular vehicle. Similarly, a particular event and a particular vehicle can only relate one particular car. Therefore, the cardinality of customer and vehicle is “1”. This ternary relationship can be converted to 2 binary relationships like the sale event. The cardinality of vehicle-event is “1-N” and that of the customer-event is also “1-N”.