CSCI 466 Assignment 1 - Fall 2023

ER Diagram Assignment A - Easy Introduction (50pts)

The Goal

The goal of this assignment is just to check that you understand the basics of entity-relationship diagrams

Task

Provide a separate ER diagram representing each of the following situations. They can be on the same page, but items from one should not be used in the others. For instance, Dog is used in a couple of these. There should be a separate Dog for each of the diagrams. Make sure to clearly label each diagram. (10pts each)

1. Dog is an entity. It has two attributes, "Name" and "Tag Number". A given dog can be identified by its Tag Number. Person is an entity. It has two attributes, "Name" and "ID". ID can be used to identify a person. There is a relationship, "owns", between Person and Dog. A person can own many dogs, but a dog may only be owned by a single person.
2. Dogs, Cats, and Birds are types of Pet. A Pet can exist without being one of those types, but no pet exists that is more than one of these types. All pets have a name. Dogs alone have an attribute for their favorite type of bone.
3. You're working on a simple social network and want to store information on how people are related. This will center around a (recursive) "is friends with" relationship between two People, and a "likes" relationship between a Person and some Thing (an entity). The "is friends with" relationship is between a single person on one side and many people on the other side. The "likes" relationship is many-to-many. Each Person will have a Name and a UserID. The UserID can uniquely identify a given Person. Note: You may only use one Person entity.
4. A is an entity. It has an attribute, "a_id" as its identifier. B is a weak entity that depends on A. It has "b_id" as its discriminator. Many instances of B may belong to the same instance of A.
5. Q, R, and S are entities. There is a relationship between all three, called Z. For each Q and R there is one S. For each R and S there can be many Q's. For each Q and S, there is one R. Every time the relationship, Z, is satisfied, a single value, "X", will be stored.

What to turn in?

You should turn in, via Blackboard, the following:

- A PDF file containing the diagrams you've drawn. You can draw this in any graphics program. If you don't have any graphics software, one option is Inkscape, which is an open source vector drawing program (`inkscape.org`).

  If you absolutely must, you may draw it by hand and scan it, but it must be legible. Credit will not be given for portions of the diagram that cannot easily be read by the grader.