CSCI 688 Assignment 1 (ERM)

Create an ER Schema for the following scenario. The schema must include:

- The ER diagram itself, complete with attributes and cardinality constraints.
- An entity attribute list briefly describing, when necessary, the attributes for each entity. Try to have at least 5 attributes per entity, although this will not be reasonable for some entities.
- A list of relationship attributes and their descriptions. (NOTE: NOT all relationships will have attributes.)
- A list of assumptions you have made in order to make the diagram.

Girl Scout troops across the country annually sell cookies in order to raise funds. They want to create a database to keep track of sales.

Draw an ER model that most accurately and concisely represents the following scenario.

1. The basic unit of the Girl Scout organization is the troop. Each troop consists of a number of girls and their leaders.
2. Each troop consists of girls who are mostly the same rank (see below).
3. Each girl has a name and address which uniquely identify them.
4. Each troop is identified by a number, but that number is unique only within the larger organization of a council. The number is not unique across the country.
5. A service unit consists of troops.
6. Each service unit has a number, which is unique within a council. It also has a name, which is also unique within the council that the service unit belongs to.
7. A council consists of a number of service units. Each council has a unique name.
8. Girls are uniquely identified by their name and address.
9. Each girl in a troop has a rank which is determined roughly by age. The ranks are (in order of increasing age): Daisy, Brownie, Junior, Cadette, and Senior.
10. Each girl belongs to at most one troop.
11. A girl who does not belong to a troop has the special rank of Juliette.
12. Leaders are also uniquely identified by name and address.
13. Leaders will sometimes be a leader in more than one troop. (Usually when they have multiple daughters of different ages.)
14. Troops always have leaders. Often more than one.
15. Cookies are sold to customers. Customers are defined to be people that the girls contact when they go collecting orders for cookies.
16. Each customer has a name and address.
17. Customers may optionally provide phone and/or e-mail contact information.
18. Cookies are offered by a bakery, which offers a limited selection of cookies, usually about a dozen.
19. Councils contract with a bakery to sell the cookies offered by the bakery.
20. Bakeries have contact information.
21. A council can have a current contract with only one bakery.
22. The price for each type of cookie is set by the council and may be different from council to council.
23. A customer will order a specific quantity of specific cookies from a specific girl scout. There may be multiple orders from the same customer to the same girl scout.
24. After the cookies arrive, troops will also hold “cookie shops” where cookies will be sold at particular locations on specific dates. In cookie shops, quantities of specific cookies sold is tracked, but no customer information is maintained.
25. Cookies sold in a cookie shop are attributed to the troop, not to a specific girl in the troop.
26. Several troops may hold a cookie shop at the same location, but at different dates and times.
27. The same troop will often hold multiple cookie shops over the course of several locations/dates.
28. Try not to get hungry for cookies while working on this assignment.

Hints: If you blindly take the above sentences and turn nouns into entities, verbs into relationships, and adjectives into attributes, you will likely do very poorly. Think about the data and how it interacts.

Try different alternatives. Some things will work better than others.

Not every piece of data or interaction is listed.