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 description. (NOTE: NOT all relationships will have attributes.)
- A list of assumptions you have made in order to do this assignment.

Create an ER diagram to model the 2016 Summer Olympics. For help in understanding the Olympic games see

http://www.rio2016.com and

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

1. There are currently 28 sports that comprise the games. Each sport consists of one or more disciplines. In the Olympics, disciplines will stage several competitions or events.
2. In some events the competitors are teams, in other events, the competitors are individuals. Teams are, of course, comprised of individuals.
3. All of the athletes representing a particular country are also known as a team. This team is different from the teams participating in various events.
4. Athletes have names, genders, height, weight, and national affiliation.
5. Athletes may participate in multiple events.
6. The staging of each event can be very complex and often depends on each event. In many athletic event, athletes participate in heats, rather than all against each other directly. Gymnasts have several different routines that are performed. Basketball teams participate in tournaments.
7. Some events are timed. Some events are scored.
8. In some events, the final scores consist of multiple parts which are combined.
9. Some events have judges, usually the ones that are scored. (But not always.)
10. Judges have names and national affiliation.
11. Gold, silver, and bronze medals are awarded to the top team or individuals in each event.
12. Each event is held at a particular venue. The different heats, rounds, and games of an event also occur at a particular date and time.
13. Some events have penalties. Penalties are worked into the final score in some fashion. In some events, it affects the score given. In others, penalties are converted to time added, or points removed. In some events, a penalty may result in a participant being disqualified. But penalties (if they exist) should be tracked.
14. Participants in many events have a number on a bib or jersey that is worn to identify them to judges and spectators.

15. After the Olympics, the Paralympics (for disabled athletes) is held at the same location. There are 22 sports that comprise the Summer Paralympic Games, each with multiple events. Most of the points listed above apply to the Paralympic Games equally as well as they do to the Olympic Games.

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.