
Instructions for Assignment #1 (worth 4 points)

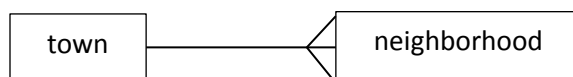
Please read carefully!

For Assignment #1 you will use pencil and paper to create a first-cut conceptual model of the relationships between various entities associated with the 2014 Winter Olympics.

The words appearing in your conceptual model must be legible. If you make a mistake – with a word, with a box, or with an line between two boxes – please do not scribble out the mistake. Instead, re-create your conceptual model on a new sheet of paper. In fact, you would do well to use one or more sheets of paper to work out/through your model; then, once you are satisfied with your “rough” model, re-create it neatly on a new sheet of paper.

Please do not forget to write your name at the top of the paper. Also, your data model should fit on a single page.

For this assignment, I am only requiring maximum cardinality. (In other words, do not include the symbols for minimum cardinality.) Each entity should be represented as a word within a box. Relationships between entities should be represented with the crow’s-foot notation, as demonstrated in class. As an example, consider two entities (town and neighborhood). A town can include many neighborhoods, but a neighborhood belongs to only one town:



Refer to the following requirements (or business rules) to create your conceptual model. (Hint: entities are shown in **bold**.)

Please note that you will be producing one data model of interconnected entities, **not** five discrete data models (i.e., one for each of the following requirements). Accordingly, each entity will be connected to every other entity, though in most cases this connection will be **indirect** (e.g., cluster may be indirectly connected to discipline through, say, three tables).

Requirements

- 1 A geographic **cluster** (of which there are two – Sochi Olympic Park (i.e., the Coastal cluster) and Krasnaya Polyana (i.e., the Mountain cluster)) can contain many venues, but a **venue** belongs to only one cluster.
- 2 A **venue** can accommodate many events, and an **event** can be held in multiple venues.

- 3 A **discipline** (e.g., alpine skiing) includes many events, but an **event** (e.g., men's giant slalom) belongs to only one discipline.
- 4 A **nation** includes many athletes, but an **athlete** belongs to only one nation.
- 5 A medal can be awarded to an athlete or a nation. Also, medals are awarded to first, second, and third place finishers in each event. Thus, medals are tied to athlete, nation, and event. Instead of creating an entity named medal, though, create an entity that serves as a child of all three of these entities (i.e., athlete, nation, and event). The relationship between these three entities is said to be a *ternary* relationship. (Medal will then be an field within this child table.)

Hint: your conceptual model should include two junction tables. When naming these junction tables, please use one of the conventions used in class.

(In case you're wondering: after this assignment we will implement this data model as a database in MS Access. In doing so, we'll add columns, define data types, and begin populating the database with data.)

Deadline and deliverable

You will turn in your data model **at the start of class on Thursday (Feb. 6)**. Please make a photocopy of your data model so that you can use one of the copies in class. (We'll start to create a database from this data model in class.) I don't care which copy you turn in to me – original or photocopy – as long as it's legible.

JR