

Worksheet 7 Sample Solutions

Q1. This diagram is for a baseball league. Other sports will have different attributes, the the entities and relationships will be the same.



Q2.

- true ("actor" has mandatory participation in the "Performs in" relationship, so every actor must appear in some movie).
- maybe (the number of movies an actor can perform in is not limited, so it is possible for an actor to act in more than 10 movies).
- maybe (the number of movies an actor can have a lead role in is not limited).
- true ("Leading role" is a 1:N relationship. An actor can have the lead role in many movies, but each movie only has one actor in a leading role).
- maybe (the subtypes of "Person" are overlapping, so it is possible for the director of a movie to also be an actor. However, this is not required).
- maybe (as above, the subtypes are overlapping, so a producer may be an actor also. However, we cannot tell for sure that this has actually happened in the database).
- false (there is nothing in the ER diagram that requires an actor/director to have both roles in the same movie).
- maybe (the number of actors in a movie is not limited, so it is possible that one may have over 12).

- i. false ("person" has mandatory participation in its supertype/subtype relationship, meaning that every person MUST be an actor, producer or director).
- j. maybe (all movies have 1 director, but the number of producers is unlimited, so we cannot say how many producers each movie has from this diagram).
- k. maybe (all movies have one director. All movies may have several producers, but this is not guaranteed)
- l. maybe (it is possible for this to happen, but we don't know if it actually has happened).
- m. maybe (directors who also act are permitted by the model, but we cannot tell if this has happened).