

# CS 260 - Database Systems

## Lab 6

This lab will focus on ER modeling with Chen notation. It will consist of the following:

- Create a conceptual model using Chen's notation in Visio
  - Include relationship cardinalities with mandatory/optional participation
  - Indicate whether or not an attribute is a key
  - Indicate weak entities and identifying relationships
  - Don't include foreign keys, nullability, or linking tables
  - Use naming conventions that aren't tied to a relational database

This should be carried out for the system described below. The system is intended to model data regarding TV shows. You should not add any additional fields in either diagram.

You should create an image in Visio as your result.

And TV show consists of an ID, name, and synopsis. It may have multiple seasons, each of which has a season number. A season can only belong to a single TV show. A TV show cannot exist without any seasons, and a season can only exist if it has a corresponding TV show.

A season of a TV show may air on multiple networks. A network consists of an ID and a name. A network may air multiple seasons of a TV show. A season cannot exist if it is not aired on a network, but a network can exist even if it doesn't air any seasons of a TV show. This is because a season may appear on multiple networks due to syndication, but it doesn't exist before a network has agreed to air it.

A TV show season may contain multiple episodes. An episode consists of an episode number, title, and plot. An episode can only belong to a single season. An episode cannot exist unless it corresponds to an existing season, and a season cannot exist without any episodes.

A director consists of an ID, name, a flag that indicates whether the director is also a writer, and a flag that indicates whether the director is also a producer. A director may direct multiple TV show episodes, but an episode can only have one director. A director may exist without directing any episodes, and an episode may exist without an assigned director.

An actor consists of an ID, name, bio, and headshot. An actor may appear in multiple episodes of a TV show and a TV show episode may have multiple actors. An actor can exist even if that actor has not appeared in any episodes, and an episode can exist even if it has no actors. This is because an episode may be planned without any actors and vice versa.

Directors and actors all may be searched and sorted according to their first and last names.