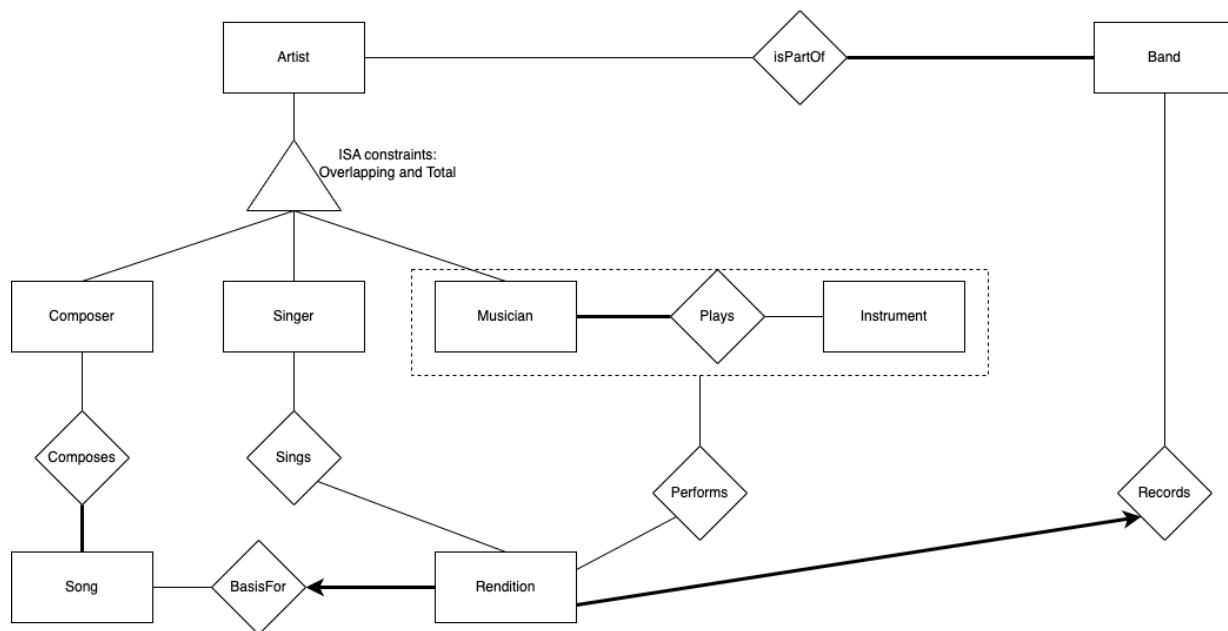


Draw an E/R diagram for just the information below, using our textbook's notation. To simplify things, you can omit the keys and attributes.

There are probably many possible E-R diagrams that model this application. Feel free to make any reasonable assumptions.

- An artist is a person who is a musician, composer, or singer. Let us assume that these 3 are the only possibilities; but artists can be any, or all, of these 3. (Just as an example, Randy Bachman (formerly and maybe still living in Greater Vancouver, is all 3: musician (guitar), composer, and singer.)
- An artist may be in zero or more bands.
- A musician plays one or more instruments.
- Let us assume that a band consists of one or more artists. (So, a single artist might make up a very basic "band", and it is possible that an artist can be in many bands.)
- A version (performance) of a song is called a rendition, and that rendition is recorded by exactly one band. A song may form the basis for any number of renditions, including zero. Sometimes a new rendition of the song is recorded by the original band; but sometimes by a different band.
- A rendition is associated with exactly one song.
- A song is associated with one or more composers (creators).
- Zero or more singers sing in a rendition. (Maybe a rendition is just an instrumental piece.)
- A rendition is performed by zero or more musicians and instruments (e.g., maybe the rendition is just a singer with no music). Sometimes a musician plays multiple instruments in a rendition, and we want to make a note of that. (For example, Neil Young sometimes plays a guitar and a harmonica in the same rendition; but, not in all of his renditions.) Sometimes a musician also sings in a rendition (e.g., Randy Bachman sings and plays a guitar).

Sample Solution (there may be others)



Special note: Sometimes, you will see ISA constraints listed as something like “Overlaps and Covers” meaning there is an overlapping and covering constraint in place. I.e., there is an overlapping and total constraint. You might also see the negated version of an ISA constraint such as “there is no covering constraint”.