

ER Model: Subclasses

Conceptual Data Modeling

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Learning Objectives

By the end of this video, you will be able to:

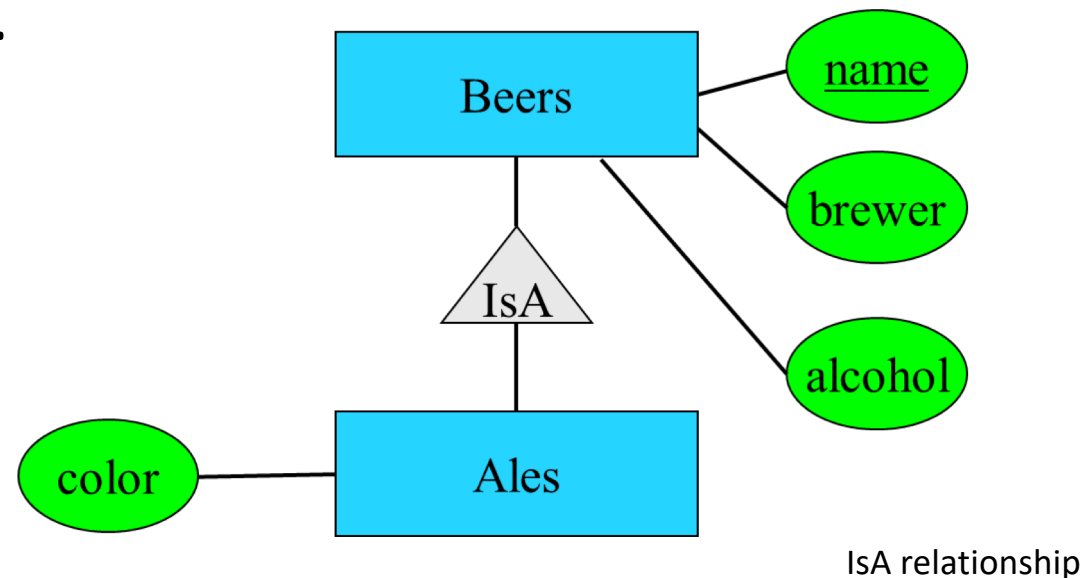
- Specify subclasses of an entity set by the IsA relationship.
- Explain how IsA is different from a general relationship.

Why Subclassing?

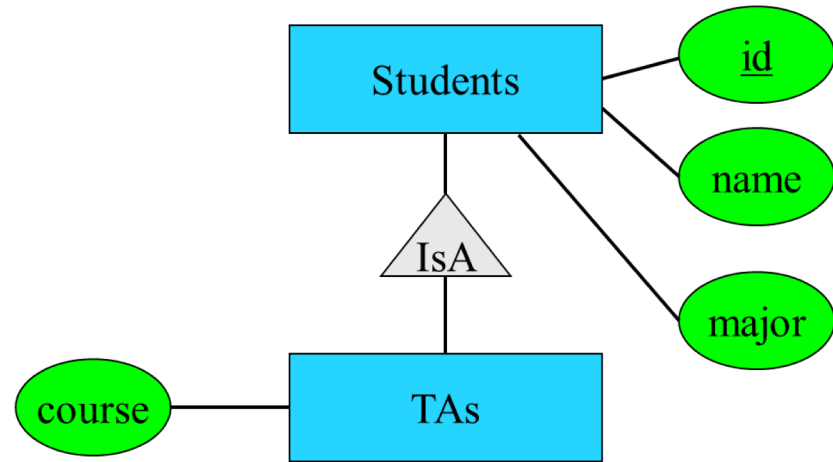
- Natural to think of real-world entities as specialization of others.
 - Graduate student is a specialization of student.
 - Ale is a specialization of beer.
- Specialization implies additional attributes.
 - Graduate student has research topic and research adviser.
 - Ale has (different) colors.
- Specialization implies fewer members.
 - Every grad student is a student, but not vice versa.
 - Every ale is a beer, but not vice versa.

Subclasses in ER: IsA Relationships

- An IsA triangle indicates a subclass relationship.
 - Directed– from subclass pointing to the superclass.
- Subclass inherits all attributes of superclass and some more.
- Assume subclasses form a tree.
 - I.e., no multiple inheritance.



*How does an IsA relationship differ from a general relationship?
Contrast the following two examples.*



VS.

