The Entity-Relationship Model, Part 2

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1 Administrivia

Announcements

Project deliverable one due today. Proposals due Feb. 10.

Won't explicitly cover vocab-style questions in class, but you are responsible for them. See them below.

See written assignment on class web page. Due Tuesday, Feb. 7 at beginning of class.

Assignment

Review the `web.py` tutorial and Python resources linked to from the class web page.

From Last Time

E-R model, part 1.

Outline

1. EE-R diagram practice.

Coming Up

web.py tutorial

2 Vocabulary

1. In the EE-R model, if entity instances can belong to more than one subclass in a specialization, the subclasses are
   A. disjoint
   B. overlapping
   C. incorrect
   D. complete

2. In the EE-R model, if entity instances cannot belong to more than one subclass, we say the subclasses are
   A. complete
   B. partial
   C. disjoint
   D. total

3. In the EE-R model, completeness constraints tell us whether a specialization is
   A. disjoint or overlapping
   B. total or partial
   C. predicate-defined or user-defined
   D. union or category

4. In an EE-R diagram, the letter d in a specialization circle stands for
   A. disjoint
   B. disjunction
   C. defined
   D. detached

5. In an EE-R diagram, a total specialization is indicated by
   A. the letter t in the specialization circle
   B. a double line connecting the circle to the superclass
   C. a single line connecting the circle to the superclass
   D. a double arrow to the circle

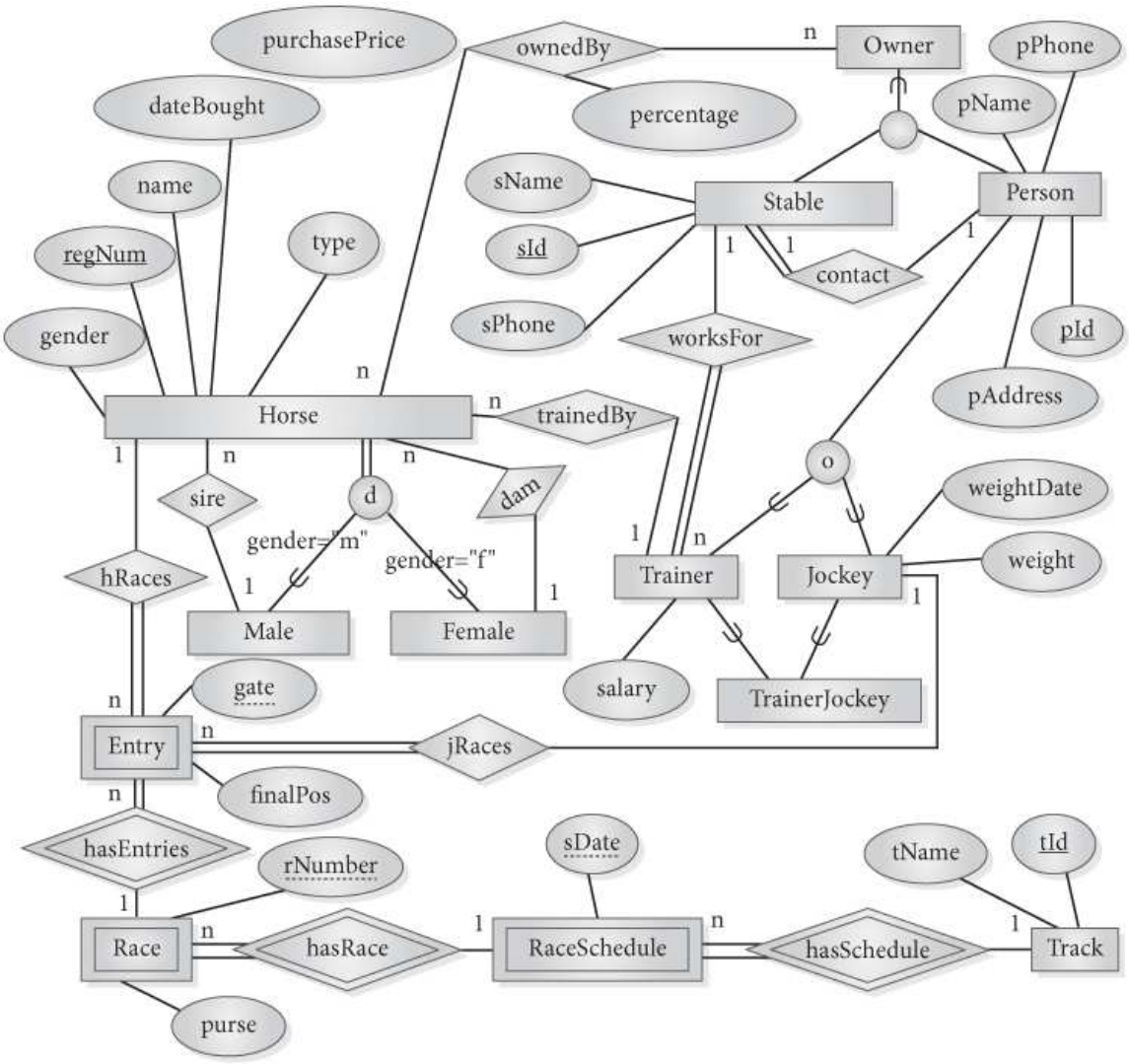
6. In the EE-R model, a collection of superclasses with a subclass such that each member of it belongs to only one of them is called a
   A. group

B. generalization
C. consolidation
D. union

7. Explain how union differs from generalization in the EE-R model.

3 EE-R Diagram Practice

1. Consider the following EE-R Diagram:



(a) Consider the `Horse`, `Male`, and `Female` entities:

i. What does the "d" denote?

ii. According to the diagram, must every horse be male or female?

iii. Which entities are subsets and which are supersets?

(b) Consider the `Person`, `Trainer`, and `Jockey` entities:

i. What does the "o" denote?

ii. According to the diagram, must every person be a trainer or a jockey?

(c) Consider the `Owner`, `Stable`, and `Person` entities. Does the *ISA* relationship hold in any of the directions? Explain.

2. (a) Considering the book collector exercise from the previous class, assume that the `Seller` entity set is specialized into `Private` and `Dealer`. Show how the specialization is represented on an EE-R diagram, making up attributes as needed and stating any assumptions you need to make.

(b) Given the specialization in Part (a), add relationships and/or additional diagram elements that show:

i. All sellers can have a `rating` assigned by the collector.

ii. Private sellers are usually recommended by a `source` such as a friend or another collector.

iii. Most dealers have a `newsletter` or a `webpage` that they use to advertise their offerings.

(c) Using (min, max) notation, add constraints for the relationships, stating any additional assumptions you need to make.

3. Develop an EE-R diagram for the college student and activities exercise from the previous class, but expand it to cover graduate students as well as undergraduates. Graduate students can participate in the clubs as members, or they can serve as moderators of the clubs. A graduate student, like an undergraduate, has one academic advisor, but may also have a thesis advisor, who oversees his or her thesis research.