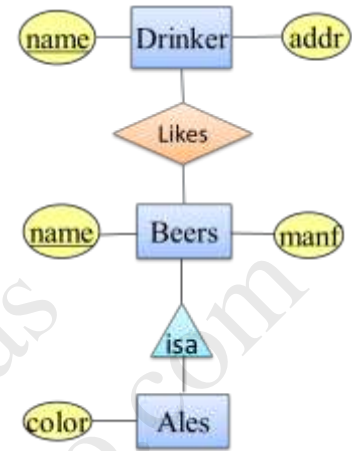


## INF 551 – Fall 2017 (Morning section)

## Quiz 7: Relational modeling &amp; SQL (10 points), 15 minutes

1. [4 points] Convert the E/R diagram into a relational model. Use **the E/R approach** in converting subclasses.

Drinker(drinker\_name, addr)  
 Beers(beer\_name, manf)  
 Likes(drinker\_name, beer\_name)  
 Ales(beer\_name, color)



2. [6 points] Using the relational model in the above question, write an SQL query for each of the following questions.

- a. [2 points] Find the color and manufacturer of all Ales beers.

**Select Ales.color, Beers.manf from Ales, Beer where Ales.beer\_name = Beers.beer\_name;**

- b. [2 points] Find names of all drinkers who like Ales beers.

**Select Drinker.drinker\_name from Drinker, Likes where Drinker.drinker\_name = Likes.drinker\_name and Likes.beer\_name in (Select Ales.beer\_name from Ales);**

- c. [2 points] Find names of all manufacturers that make at least two different beers.

**SELECT DISTINCT b1.manf FROM Beers b1, Beers b2  
 WHERE b1.beer\_name <> b2.beer\_name and b1.manf = b2.manf;**