Week 5: Quiz questions and model answers

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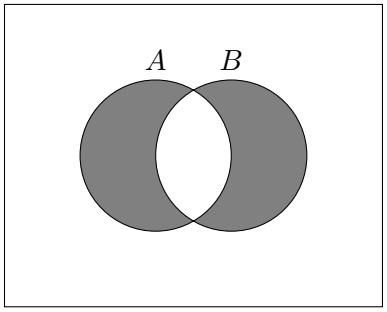
Introductory message: This quiz covers the material in CC section 2.4. This section discusses licensing environments for negative polarity items. This quiz is aimed to test your knowledge of set theory

1. **Eulid diagram** A the set of dogs. B is the set of all entities that like Whiskas. Which sentence does the Eulid diagram capture?



   (a) *Some dogs likes Whiskas.* (1pt checked / -1pt unchecked)
   (b) *No dog likes Whiskas.* (-1pt checked / 1pt unchecked)
   (c) *Every dog likes Whiskas.* (-1pt checked / 1pt unchecked)

   Model answer: The correct answer is *Some dogs likes Whiskas.*

2. **Sets** A the set of dogs. B is the set of all entities that like Whiskas. Which formula captures the meaning of the sentence *No dog likes Whiskas.*

   (a) $A \cap B = \emptyset$ (1pt checked / -1pt unchecked)
   (b) $A \cup B = \emptyset$ (-1pt checked / 1pt unchecked)
   (c) $A \in B$ (-1pt checked / 1pt unchecked)
   (d) $B \in A$ (-1pt checked / 1pt unchecked)

   Model answer: The correct answer is $A \cap B = \emptyset$. The intersection of dogs and likers of Whiskas is empty.

3. **Monotonicity: Every** The quantifier *every* is left downward monotone. Given sentence *Every* , come up with a version of the sentence that shows that *every* is left downward monotone

   Model answer:

4. **Monotonicity: No** The quantifier *no* right downward monotone because the sentence *No dog likes to sleep* entails:

   (a) *No dog likes to sleep on the ground* (1pt checked / -1pt unchecked)
   (b) *No poodle likes to sleep* (-1pt checked / 1pt unchecked)
   (c) *Noone likes to sleep* (-1pt checked / 1pt unchecked)

   Model answer: The correct answer is *No dog likes to sleep on the ground*. A right downward monotone determiner is a determiner such that in a sentence of the form D X Y it entails D X Y', where Y' is a subset of Y. *Sleep on the ground* is a subset of *sleep*. The sentence *No poodle likes to sleep* shows that *no* is also left downward monotone, because a poodle is a subset of dogs.

5. **Monotonicity: Few** Based on the data below is, few is ... Select all that apply.

   - Few athletes play piano.
   - Few footballers play piano.
   - Few athletes play piano well.

   (a) Left downward monotone (1pt checked / -1pt unchecked)
   (b) Right downward monotone (1pt checked / -1pt unchecked)
   (c) Not downward monotone (-1pt checked / 1pt unchecked)

   Model answer: The correct answers are left and right downward monotone. If *Few athletes play piano* is true, then it means that *few footballers play piano.* is also true. Since footballers is a subset of athletes, few is left downward monotone. If *Few athletes play piano* is true, then it is also true that *few athletes play piano well*, since the set containing all entities that play piano well is a subset of the set that contains all entities that play piano.

6. **Monotonicity: All** Based on the data below is, *all* is ... Select all that apply.

   - All dogs love walks.
   - All chihuahuas love walks.
   - All dogs love walks in a park.

   (a) Left downward monotone (1pt checked / -1pt unchecked)
   (b) Right downward monotone (-1pt checked / 1pt unchecked)
   (c) Not downward monotone (-1pt checked / 1pt unchecked)

   Model answer: The correct answers are left downward monotone. If *All dogs love walks* is true, then it means that *all chihuahuas love walks.* is also true. Since chihuahuas is a subset of dogs, all is left downward monotone.If *All dogs love walks* is true, it does not entail that *all dogs love walks in a park*. Some dogs might like it better to walk in the city center. Therefore, all is not right downward monotone.