

First Midterm Answers

Please work on the questions individually. You may not consult your notes or your book. Or your neighbor.

The exam has a total of 30 points, and constitutes 15% of the final grade. The point value of each question is noted next to the question itself. You have an entire class period to complete this exam (80 minutes); please time yourself accordingly.

Write your answers in the space provided. Please write legibly. Be clear and to the point. If you do not know the complete answer to a problem, give a partial answer. Partial answers will receive partial credit.

A summary of DRT rules is provided for your reference.

Summary of DRT rules

Construction rules:

- i. Indefinites introduce a discourse referent, and predicate their content of that referent. For example, the noun phrase *a dog* can introduce a referent z , and add the condition $\text{dog}(z)$. Referents and conditions are introduced in the current box.
- ii. Proper names introduce a discourse referent, and predicate their content of that referent, but they always do so at the matrix (outermost) box.
- iii. Pronouns do not introduce discourse referents; they pick up existing referents that match in gender and number (gender and number agreement are not modeled in our representation, but we assume them nonetheless).
- iv. A negated clause is processed inside a negated box: $\neg \boxed{\quad}$
- v. The word *if* introduces a conditional structure: $\boxed{\quad} \Rightarrow \boxed{\quad}$. The clause following *if* is processed in the antecedent box, and the main clause is processed in the consequent box.

If a dog barks it walks: $\boxed{\text{a dog barks}} \Rightarrow \boxed{\text{it walks}}$

- vi. The word *every* introduces a conditional structure $\boxed{\quad} \Rightarrow \boxed{\quad}$ as well as a discourse referent in the antecedent box. The noun complement of *every* is interpreted as a condition on this discourse referent in the antecedent box, and the predicate is interpreted as a condition on this discourse referent in the consequent box.

Every dog barks: $\boxed{y \text{ dog}(y)} \Rightarrow \boxed{\text{barks}(y)}$

- vii. A relative clause is predicated of the discourse referent that its head noun refers to: in *a dog which barks*, the clause *which barks* is a condition on the discourse referent introduced by *a dog*.

Interpretation of discourse referents:

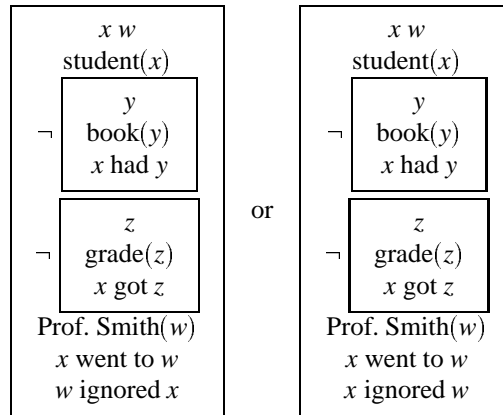
- i. A discourse referent in the matrix box must refer to an object that exists in the world.
- ii. A discourse referent in a negated box means that there is no object in the world that it can refer to and that would satisfy the conditions.
- iii. A conditional box states that for all objects that can be referred to by the discourse referents in the antecedent box in a way that the conditions in that box hold, there exist objects that can be referred to by the discourse referents in the consequent box that satisfy the conditions in that box.

Accessibility:

- i. A referent is accessible from its own box, and all the boxes contained within its box.
- ii. A referent is not accessible from outside its own box, except that:
- iii. A referent in the antecedent of a conditional is accessible from the consequent of that conditional (and all boxes within that consequent).

For the exam, use structures without the representation of temporal information, events and states.

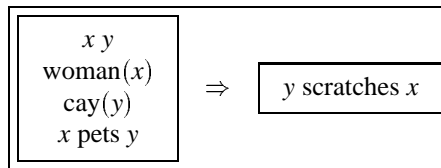
1. Construct a DRS for the following discourse: *A student who did not have a book did not get a grade. She went to Professor Smith. She ignored her.*



Is the discourse ambiguous? If so, does the theory capture the ambiguity by assigning it two distinct DRS's? Explain briefly.

The discourse is ambiguous, and the theory captures this ambiguity: in the last sentence the pronoun *she* can refer to the student and *her* to the professor, or the other way around; this is represented in the DRS as two different conditions—"x ignored w" or "w ignored x".

2. Construct a DRS for the following sentence: *If a woman pets a cat, it scratches her.*



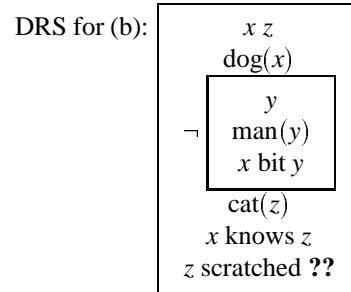
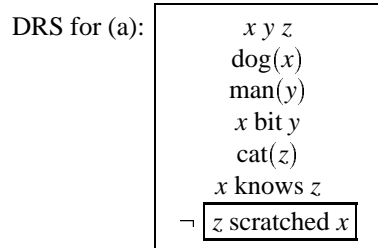
Does the sentence talk about a particular woman and cat, or about all women and cats? Explain, with reference to the construction rules and the interpretation of discourse referents.

The sentence talks about all women and cats: the discourse referents for *a woman* and *a cat* are introduced in the antecedent box of a conditional (construction rule \vee), so interpretation considers all possible referents (interpretation rule iii).

3. Sentence (a) below is coherent, while sentence (b) is not.

- (a) A dog that bit a man knows a cat that didn't scratch him.
- (b) *A dog that didn't bite a man knows a cat that scratched him.

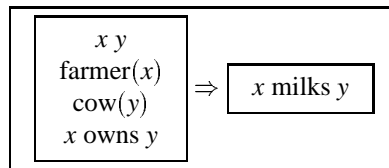
Construct a DRS for each sentence (or go as far as you can if one cannot be constructed).



Explain why there is a contrast between the two sentences; refer to elements of the theory.

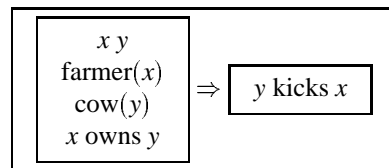
In sentence (a) all of the discourse referents are introduced in the main box, so the pronoun can refer to them; in sentence (b) the discourse referent for *a man* is introduced in a negated box (construction rule iv), so it is inaccessible to the pronoun (accessibility rule ii).

4. The following DRS is the representation of two distinct sentences in English. Write the sentences whose meaning is represented by this DRS.



- If a farmer owns a cow, she milks it.
- Every farmer who owns a cow milks it.

In contrast to the preceding example, the following DRS can only represent one English sentence. Write the sentence whose meaning is represented by this DRS.

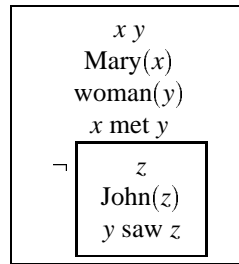


If a farmer owns a cow, it kicks her.

Why is there a difference between the number of sentences that each of the above DRS's can represent? In your answer, refer to the construction rules.

The construction rule for *if* (v) introduces a conditional structure; the construction rule for *every* (vi) does the same, and in addition it states that the consequent boxes is a condition on the discourse referent that corresponds to the head noun of the antecedent box. This condition is met in the first DRS but not the second, so only the first DRS can represent a sentence with *every*.

5. The following DRS is supposed to represent the sentence *Mary met a woman who didn't see John*; however, the DRS is not constructed according to the rules.



What is wrong with this DRS?

John is a proper name, so it should be processed in the matrix box (construction rule ii).

The above DRS makes a wrong prediction regarding the possibility of anaphora in subsequent discourse. What is this wrong prediction?

It predicts that the discourse referent introduced by *John* cannot be referred to in subsequent discourse because it is inaccessible (accessibility rule ii).

Demonstrate that the prediction is wrong by adding a sentence which is possible, but which the DRS predicts is impossible.

... He was hiding behind a tree.

6. A deictic pronoun gets its reference without a linguistic antecedent: if we point to a man and say *he is tall*, the pronoun *he* is interpreted deictically. In the article we read, Barbara Partee claims that the past tense in the sentence *I didn't turn off the stove* can be interpreted like a deictic pronoun. Briefly explain what is meant by this.

The sentence talks about a particular interval in the past; the past tense thus picks its reference from the non-linguistic context, just like a deictic pronoun.

7. A sentence like *I spotted ten birds* implies that I didn't spot more than ten; this is argued to be due to a conversational implicature. Briefly explain the principle which gives rise to this implicature.

The maxim of quantity states that the speaker gives just enough information as necessary; under most circumstances, this means stating the total number of birds spotted.

Provide a context in which this implicature does not arise.

In a bird watching contest, everyone who spots ten birds or more receives a free shirt. Spotting more is irrelevant, so if someone asks for a shirt and says she has spotted ten birds, we do not conclude that she hasn't spotted more.

8. The following discourses have the same truth conditions—in every situation that one is true, the other is true as well.

- (a) A chicken laid four eggs, and three of them hatched.
- (b) A chicken laid four eggs, and all of them hatched except one.

However, the unhatched egg is only represented in the DRS for one of these sentences.

For which sentence is the unhatched egg represented in the DRS?

Sentence (b).

How do we know this? Demonstrate.

The continuation ... *It had not been fertilized* can be uttered after sentence (b) but not (a); this shows that there is an accessible referent in the DRS for (b) but not for (a).