



Quiz 7

1: In the two sentences S1: "The snow melted." and S2: "Snow White slept.", what is the semantic role of "snow" in S1 and "Snow White" in S2?

- agent & agent
- theme & theme
- agent & theme
- theme & agent

2: Which of the following is false? (interpret d and e as true statements: do not invert them to mean e and d)

- One approach to understand the meaning of a sentence is to parse the sentence and build semantic attachments from bottom-up.
- Using syntax-driven semantic analysis, we can solve the quantifier scoping issue that occurs in "every restaurant serves a burger."
- Lambda calculus is an extension of first-order predicate calculus, which introduces variables that can be bound later.
- All of those above are false.
- All of those above are true.

3: What is true about statistical parsing techniques?

- For an efficient agenda-based parser, we use uniform-cost search.
- It is possible that the agenda-based parser might not find the best parse that a CKY algorithm can find because an edge could fall off the agenda before its best parse is seen.
- It is possible to reduce the time complexity of dependency parsing to $O(n^2)$ by introducing the idea of triangles and trapezoids.
- None of the above are true.
- All of the above are true.

4: When trying to compose the meaning representation of the sentence "Tim likes Jane," how many arguments should the predicate "likes" take?

- 0
- 1
- 2

- 3
- Other

5: In the lecture on Wednesday (5/21), Professor Manning demonstrated an early semantic system written in Prolog. What is the name and what does it do?

- Chat-80. It is a natural language interface to a geographical database.
- Chat-80. It is programmed to behave like a psychotherapist.
- GeoQuery. It is a natural language interface to a geographical database.
- GeoQuery. It is programmed to behave like a psychotherapist.
- What are you talking about? No system was demoed Wednesday.

6: which of the following is not a feature of one of the lexicalized PCFG model of Collins?

- Subcategorization frames for each verb.
- A distance measure that is a function of the words below the previous modifiers.
- Four-level back-off smoothing.
- Coordination features.
- Gapped subjects.

7: Which of the following techniques is useful for recovering the k-best parses for a sentence?

- Beam search
- A* search
- Agenda/Chart-based search
- Best-first search
- None: all are mainly used to find a single best parse.

8: Which of the following sentences does not exemplify the ambiguities of quantifier scoping?

- "Every man seeks a white elephant."
- "Three Frenchmen visited five Russians."
- "All the sentences contain a quantifier scoping ambiguity." (This is a sentence to consider, not an answer)
- All of the sentences above contain a quantifier scoping ambiguity. (This is an answer)

9: Which of the following statements is false?

- For generative parsing models, it is easy to include arbitrary features on the shape and constituents of the tree.
- The accuracy of discriminative reranking systems is bounded by the oracle accuracy on their first-stage parser outputs.
- Uniform-cost parsing performs parsing inside-out but asynchronously as

opposed to CKY.

All are true.