Quiz 6

1: Which statement is true about FrameNet?
- It is based on Penn TreeBank.
- Every verb is annotated, whether or not it seems to be part of a frame.
- It first defines some "frames" of interest, then selects example sentences that have those verbs and annotates them.
- It represents a good sample of the real world statistics of frames.
- None of the above
- All of the above

2: Which of the following trees is a lexicalized tree?

```
S
  / \  
NP  VP
   / \  
  DT  N  V  NP
```
- the lawyer questioned the witness
3: For the trees above, when you count and estimate the probability for rewrite rules, which tree is most likely to encounter sparseness problem?
4: Which of the following is true about parsing?
   - The time complexity of lexicalized PCFG parsing like Collins (1997) and Charniak (1997) is $O(n^3)$. (n: sentence length)
   - Binarization is crucial for CKY algorithm to run in $O(n^3)$ time complexity. (n: sentence length)
   - The Collin's parser (1997, 1999) is a generative model, and in the generative rules he made use of POS tag information.
   - Lexical information is useful for dealing with PP-attachment ambiguity.
   - Some of those above (more than one, but not all) are true.
   - All of those above are true.

5: Which statement is true?
   - Propbank annotates the arguments of predicates (verbs) with labels like "arg0" and "arg1".
   - FrameNet uses more informative names, but there is a simple mapping between Propbank and FrameNet annotations.
   - Propbank annotates for verbs and nouns.
   - None of those above
   - Two of those above
   - All of those above

6: Which of the following is a false statement about PCFGs:
   - The rules impose independence assumptions that effect poor modeling of structural dependency across the tree.
   - The rules do not model syntactic facts about particular words, which causes a variety of problems.
   - The joint probability of a sentence, S, and a parses of it, T, is the same as the probability of the parse, T.
   - None of the above is false

7: If we take a parser, run it on some hand-annotated treebank, and score the parser's output against the human-labeled ground truth, then we have just performed:
   - Supervised learning
   - Online learning
   - Extrinsic evaluation
   - Intrinsic evaluation

8: Which of the following parses below are correct parses that could have been discovered by the CKY algorithm? (Note: the colors and arrows are simply two different ways of showing the backwards chaining)
9: For the following sentence, which are the valid head tags according to the head percolation table in J&M p. 415:

- A
- B
- C
- D

None are correct
Some are correct
All are correct parses
1: E, 2: E, 3: E
1: B, 2: B, 3: C
1: B, 2: B, 3: D
1: B, 2: B, 3: E