a. Stack – Buffer – Dependency – Transition

   [ROOT] – [I, attended, lectures, in, the, NLP, class] – na – Initial

   [ROOT, I] – [attended, lectures, in, the, NLP, class] – na – SHIFT

   [ROOT, I, attended] – [lectures, in, the, NLP, class] – na – SHIFT

   [ROOT, attended] – [lectures, in, the, NLP, class] – attended -> I – LEFTARC

   [ROOT, attended, lectures] – [in, the, NLP, class] – na – SHIFT

   [ROOT, attended] – [in, the, NLP, class] – attended -> lectures – RIGHTARC

   [ROOT, attended, in] – [the, NLP, class] – na – SHIFT

   [ROOT, attended, in, the] – [NLP, class] – na – SHIFT

   [ROOT, attended, in, the, NLP] – [class] – na – SHIFT

   [ROOT, attended, in, the, NLP, class] – [] – NLP -> class – RIGHTARC

   [ROOT, attended, in, the, class] – [] – the -> class – RIGHTARC

   [ROOT, attended, in, class] – [] – in -> class – RIGHTARC

   [ROOT, attended, class] – [] – in -> class – RIGHTARC

   [ROOT, attended] – [] – class -> attended – LEFTARC

   [ROOT] – [] – attended -> ROOT – LEFTARC

b. A sentence containing n words will be parsed in (2n + 1) steps. This makes sense because each word will take one step to be added from buffer to stack and it will take one step to be added as a dependency, thus (1+1)n = 2n. The additional one comes from the basecase where the head of the sentence is linked to ROOT.

e. The best UAS my model achieved on the dev set was 88.81 and the UAS it achieved on the test set was 89.09.

f. 1. Error type: Verb Phrase, Incorrect dependency: acquisition -> citing, Corrrect dependency: blocked -> citing

2. Error type: Prepositional Phrase, Incorrect dependency: left -> early, Corrrect dependency: afternoon -> early

3. Error type: Modifier, Incorrect dependency: declined -> decision, Corrrect dependency: reasons -> decision

4. Error type: Coordination, Incorrect dependency: affects -> one, Corrrect dependency: plants -> one

g. Part of Speech tags classify words in their respective grammatical groupings. This can be helpful in text simplication. That is, being able to more easily undeerstand and simply complex sentence structures. Likewise, POS tags are useful in named entity recognition which can be helpful in finding proper nouns.