Assignment 4
L245
Due Tuesday, March 1

1. Try out the VIEW system (http://sifnos.sfs.uni-tuebingen.de/VIEW/) & answer the following:
   (a) In a sentence or two, describe the positives of these types of exercises. When would you want to
       use them for a language you’re learning?
   (b) In a sentence or two, describe the limitations of these types of exercises. When would you not
       want to use them for a language you’re learning, or what would you have to be careful about?
   (c) Describe in detail how a POS tagger can be used to generate fill-in-the-blank exercises. How could
       this be extended to other languages?
       It may help to take a look at the paper about VIEW/WERTi: http://www.sfs.uni-tuebingen.de/~dm/papers/meurers-ziai-et-al-10.html

2. Do question #6 on p. 88 of the textbook.

3. The goal of an automatic syntactic parser is to provide phrases (e.g., NPs) and/or relations between
   phrases (e.g., subjects), in order to help build a meaning for a sentence. Describe the difficulties a
   parser will have for the following examples from English language learners (describing future plans):
   (a) I will son, father and husband.
   (b) I think job, study, everythings are background for my dream, family.
   (c) This three plans base on my study, university studying, enough experience doing, and many article
       reading, for my dream.

   Be sure to discuss the source of the problem, and think especially about ambiguity.

4. We talked about using machine learning to predict the correct preposition in English sentences. The
   methods were quite different than the parser-based grammar checking methods discussed earlier.
   (a) How would we adapt this machine learning strategy for predicting where there should be the, a(n),
       or no article in English? What sorts of features are needed?
   (b) Would this approach be a good idea to predict the correct verb form for subject-verb agreement?
       Why or why not? What, for example, are the categories you’re guessing?
   (c) What about using this approach for predicting the correct pronoun in English (e.g., he vs. him
       vs. his)? Would this work? What sorts of features are relevant? Would there be a better way?
       (Hint: think about grammar checking)

5. Do question #1 in chapter 4 of the textbook (p. 120).

6. Below is a list of the authors of 7 hypothetical books. So, for example, knight and davis wrote book 4,
   but crean did not.

   1) knight 5) knight crean
   2) davis 6) davis crean
   3) crean 7) knight davis crean
   4) knight davis

   For each of the following Boolean expressions, write down which author lists match the expression. For
   example, the Boolean expression davis matches 2, 4, 6, and 7.

   (a) knight
   (b) knight AND NOT crean
   (c) knight OR davis OR crean
   (d) knight AND (davis OR crean)
   (e) (knight AND davis) OR crean