Problem Set 2

Due Feb.4, 5:00 p.m. Please bring a hard copy to class or put in my mailbox.

1. Give examples of each of the noun and verb classes in Fig. 3.6, and find some exceptions to the rules.
2. The general K insertion spelling rule in English: Words ending with a vowel + *-c* add *k* before suffixes that start with an *e, i,* or *y.* Write a transducer for the rule that accounts for adding k before the suffix –ed. Example: panic + ed 🡪 panicked. For simplicity, consider -ed a single unit with the end of word boundary: ed#. Make sure your transducer allows words not affected by the rule to pass through unchanged. Remember to remove all morpheme boundaries.
3. Computing the minimum edit distance by hand, figure out whether *drive* is closer to *brief* or to *divers* and what the edit distance is. Use +1 for insertion and deletion and +2 for substitution. Write out the *drive-brief* table like in Figure 3.26. For the *drive-divers* table, include the backpointers, as in figure 3.27.