

Linguistics 384

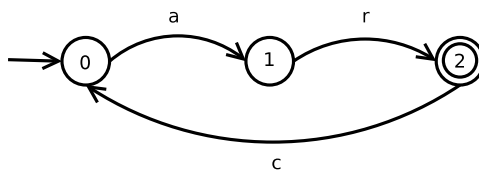
Homework 6

Dialogue Systems and iCALL

DUE: Wednesday, March 8, 2006

Problem Solving (to prepare for the quiz on March 8, 2006)

- (a) Draw a finite-state automaton (FSA) for the regular expression $sha(na)^*$, that is, an FSA which covers *sha*, *shana*, *shanana*, *shananana*, and so on.
(b) Here's an FSA:



- What is the shortest string this FSA will generate?
 - What are two other strings it will generate?
 - Write a regular expression to capture this FSA.
- (a) Suppose a learner types in the following in some CALL system designed for people learning English:
I loves the chalkboard.
What is the learner's problem?
(b) Now suppose the learner also types in the following:¹
He hates dust.
You runs a lot.
How would keeping a student model help us pinpoint the user's problem more precisely?
(c) The correct rule for subject-verb agreement in English is that the subject and the verb must agree in *person* and *number*, i.e. a first person singular subject (*I*) must have a first person singular verb (e.g. *am*, *love*, ...). Describe a mal-rule, or mal-rules, which would allow the system to process the ill-formed input *I loves*, *I is*, etc.

¹Just so you're not second-guessing yourself, the *hates* sentence is a correct English sentence.

- (d) If a beginning language learner made this kind of error, what kind of feedback would be appropriate? What kind of feedback would be appropriate for an advanced language learner?

Essay (to hand in on March 8, 2006)

1. We know that in English, the words *guy* and *gentleman* mean more or less the same thing, but they do differ in terms of usage.
 - (a) What would you tell a non-native speaker if s/he asks you what the differences are?
 - (b) Go to http://www.lex Tutor.ca/concordancers/concord_e.html and retrieve concordances for each of the two words. Quote a few relevant lines to support your claim.
 - (c) Do you find anything new about how people use these two words that you were not aware of? If yes, describe the new finding and quote those lines that support it. If not, discuss whether concordancers are a good help for learning word usage.
2. In class, we examined the pros and cons of the “Dictation” exercise. We quickly looked at 5 other exercise types (Build a Phrase, Which Word is Different, Word Order Practice, and Fill-in-the-Blank). Pick one other exercise type and give me at least 2 pros and 2 cons of using that type of exercise for language learning. (Think about what skill the exercise tests, what technology it requires, etc.)