

Assignment 3: Phrase Structure Rules and Automata

1. Problem 4a and g from Chapter 2 of the textbook (page 60).
2. Problem 11 from Chapter 2 of the textbook (page 63-64).
3. Consider a language where sentences look as follows: the sentence consists of a verb phrase followed by a noun phrase. A verb phrase consists of any number of PPs and AdvPs in any order followed by an NP followed by a Verb followed by any number of PPs and AdvPs in any order. PPs consists of an NP followed by a P and NPs consists of a noun followed by any number of PPs followed by a D. Assume that AdvPs lack internal structure i.e. they just consist of an adverb.
 - a. Provide the phrase structure rules for this language.
 - b. Provide an automata characterization for NPs and Ss in this language.
 - c. Assuming an English vocabulary, construct a 10-15 word sentence in this language.