

Theory of Computation, CSCI 438 spring 2022

Ambiguity in grammars and more examples, pg. 107-108, Feb. 16

Vocabulary:

A grammar is “ambiguous” if there are two different parse trees for the same string.

Given a grammar and a string, a “derivation” is the sequence of substitutions made using the grammar to obtain the string.

A language is “inherently ambiguous” if every grammar for the language is ambiguous.

Exercise 2.9. Give a context-free grammar that generates the language

$$A = \{a^i b^j c^k : i=j \text{ or } j=k \text{ where } i,j,k \geq 0\}$$