

Week 5

Problem 4 b)

Column1	Column2	Column3	Column4	Column5
S				
\emptyset	B			
S	\emptyset	C, B		
A	B	B	A, C	
a	b	b	c	

[!NOTE] Rules of CYK deduction:

- List out the word at the bottom row
- For w above an existing row, check that the word on the block lower and right-lower can be formed by conjoining the word.

Quick recap

1. Regular languages
 1. DFA
 - Minimal states \rightarrow Myhill-Nerode
 2. NFA
 3. RegEx
 4. Non regular
 - Pumping Lemma (May not work at times)
 - Myhill-Nerode
2. Context-free
 1. CFG
 2. PDA
 3. Non-CF
 - Pumping Lemma for CF languages
 4. CNF + CYK algorithm for deciding $\omega \in L(G)$.
3. Turing Machine