CS310

Chomsky Normal Form
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PDA → CFG
Section 2.2 page 115

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Theorem

- A Language is context free if and only if there exists a PDA that recognizes it.

- Lemma:

  - If a language is context free, then some PDA recognizes it
  - Show: a CFG can be transformed into a PDA

- Lemma:

  - If a PDA recognizes a language, then it is context free
  - *Program a PDA to run a CFG*

Construct CFG from PDA

- p 119 – 122

Build the PDA

- `{w | w = (10)`^{n}`#(01)`^{n}`; n > 1}`
  `Σ = {0, 1, #}`

- Build the CFG from the PDA using the previous construction

Examples

- Page 129
  - 2.18
  - 2.25 (produce all possible suffixes of A)
  - 2.22
  - 2.23
  - 2.17