Definition of PDA

A pushdown automaton is a collection of ...

1. an alphabet Σ

2. an input tape with a string of letters followed by an infinite number of blanks Δ

3. a stack alphabet Γ

4. a stack of stack characters

5. one start state

6. halt states of two kinds: accept and reject

7. push states where we push a letter from Γ

8. read states

9. pop states

A word is *accepted* by a PDA if there is a path that reads w and leads to an accept state.

Theorem. There exists a context-free grammar for a language L if and only if there exists a PDA for L.

Note that:

- $\{a^n b^n \mid n = 0, 1, 2, 3, \ldots\}$ is context-free.

- So is TrailingCount