Closure Properties Of CFL - I

Complete Course on Theory of Computation

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CFL & PDA

Grammar

$G(V, T, P, S)$

- P — Set of productions
- S — Start Symbol
- T — Set of Terminals
- V — Set of Variables

ex 1

P (productions)

$S \rightarrow AB$

$A \rightarrow a$

$B \rightarrow b \mid \epsilon$

$V = \{ S, A, B \}$

$T = \{ A, a, B, b \}$

$S = S$

ex (2)

$S \rightarrow AB$

$A \rightarrow a$

$B \rightarrow b \mid \epsilon$

$V = \{ S, A, B \}$

$T = \{ a, b \}$

$S = S$

ex

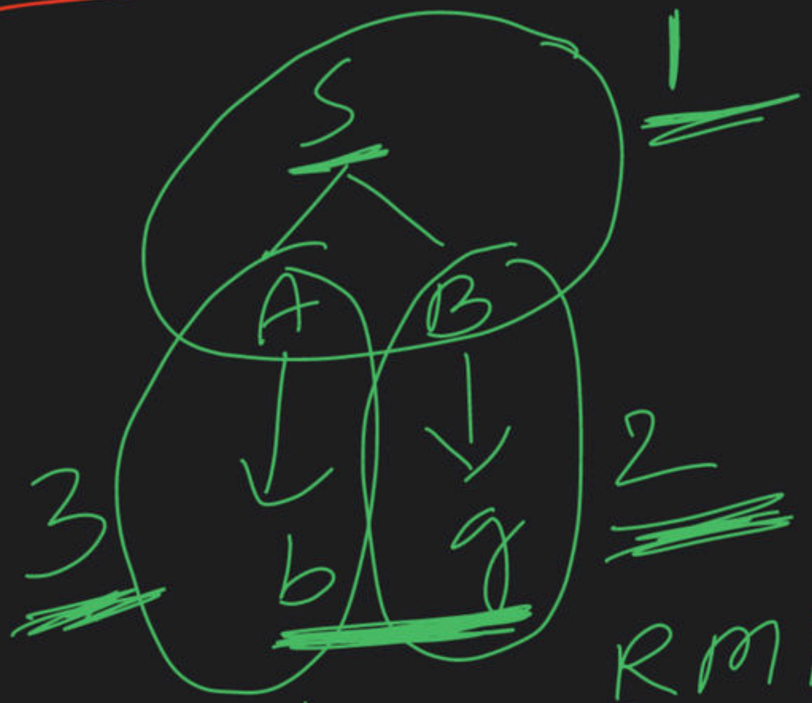
S → AB

A → a | b | c | d | ∈

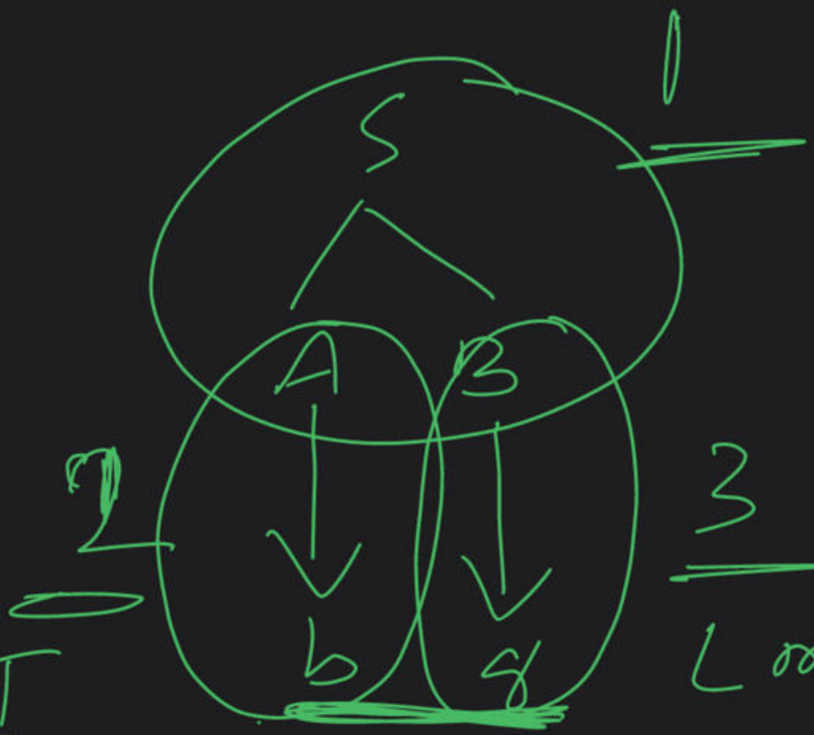
B → e | f | g | h | ∈

$S \Rightarrow AB \Rightarrow aB \Rightarrow ae$

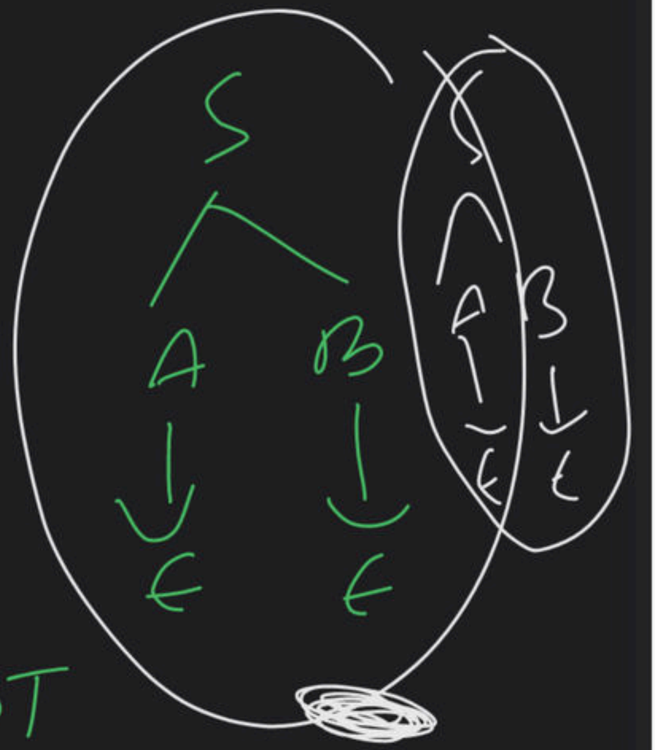
$S \Rightarrow AB \Rightarrow dB \Rightarrow df$ (LMD)



RMDT

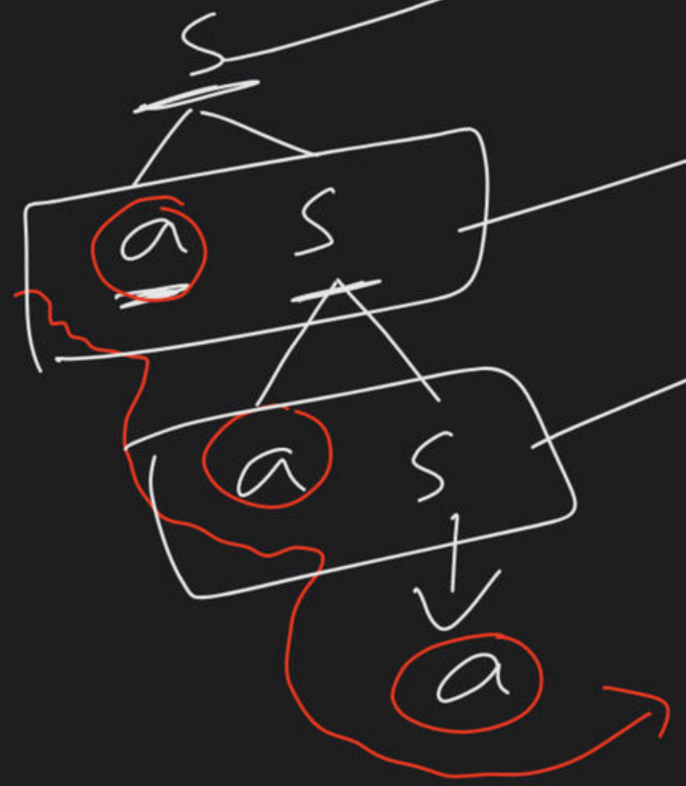


LMDT

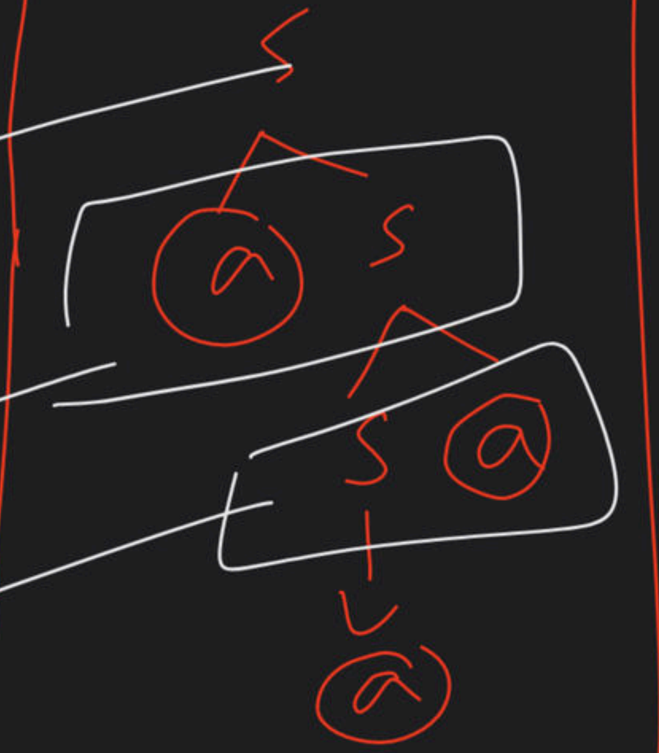


$S \rightarrow aS \mid Sa \mid a$

i/p: aaa



LMDT(a) RMDT



a

To generate aaa we have more than 1 DT so given grammar is ambiguous


Thank you
Happy Holi

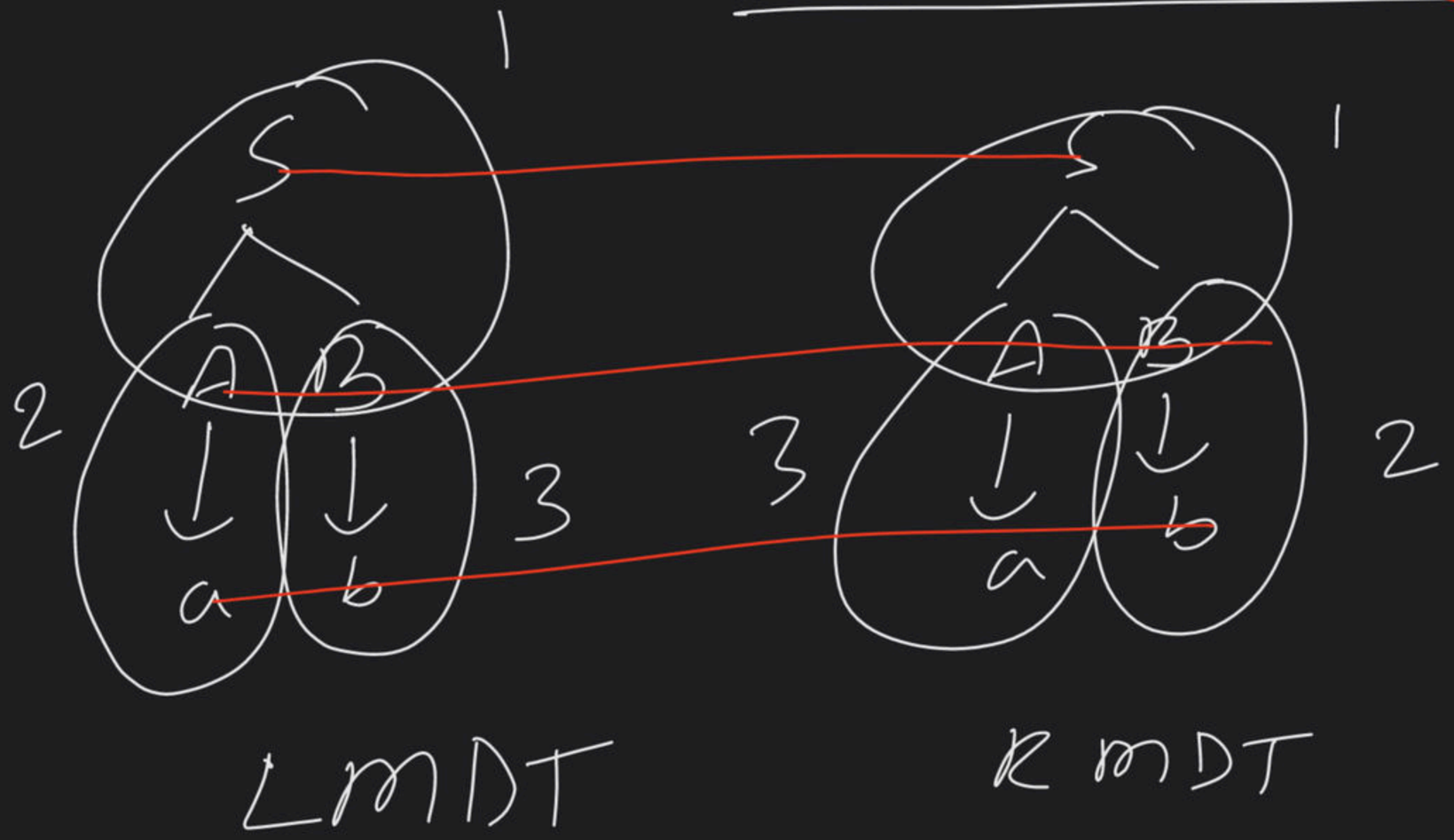
$S \rightarrow AB$

$A \rightarrow a$

$B \rightarrow b$

$S \Rightarrow AB \Rightarrow aB \Rightarrow ab$ (LMD)

$S \Rightarrow AB \Rightarrow Ab \Rightarrow ab$ (RMD)



LMDT

RMDT