

Compiler Homework 4

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Problem

Write down Regular Expression, Regular Grammar and DFA for L.

L is a string consist of even number of letter a and letter b.

Regular Expression

$((aa|bb) | (ab|ba)(aa|bb)^*(ab|ba))^*$

Regular Grammar

$S \rightarrow CS$

$S \rightarrow \epsilon$

$A \rightarrow aa | bb$

$B \rightarrow ab | ba$

$C \rightarrow A | D$

$D \rightarrow BEBD$

$D \rightarrow \epsilon$

$E \rightarrow A$

$E \rightarrow \epsilon$

DFA

