

LR(1) & LALR(1)

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LR(k)

1. Consider the following grammar

$$\begin{aligned}S &\rightarrow A a \mid b A c \mid B c \mid b B a \\A &\rightarrow d \\B &\rightarrow d\end{aligned}$$

a) Complete LR(1) states for the grammar

b) Complete LR(1) parsing table for the grammar

c) Prove the grammar is not LALR(1)

d) Which rule can be substituted and removed to make this grammar LALR(1)?