

Assignment 12

Automata & Theory of Computation

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1. Eliminate all useless productions from the grammar

$$S \rightarrow aS \mid \cancel{CD} \mid E,$$

$$A \rightarrow \cancel{aaA} \mid b,$$

$$B \rightarrow \cancel{bbB} \mid a,$$

$$C \rightarrow \cancel{bCD},$$

$$D \rightarrow \cancel{CC} \mid \cancel{\lambda},$$

$$E \rightarrow bE \mid \lambda.$$

$$S \rightarrow aS \mid E$$

$$E \rightarrow bE \mid \lambda$$