

# Assignment 12

## Automata & Theory of Computation

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Student ID:

Name:

1. Eliminate all useless productions from the grammar

$$S \rightarrow aS \mid CD \mid E,$$

$$A \rightarrow aaA \mid b,$$

$$B \rightarrow bbB \mid a,$$

$$C \rightarrow bCD,$$

$$D \rightarrow CC \mid \lambda,$$

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