Assignment 13

Automata & Theory of Computation

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1. Remove all unit-productions and all λ-productions from the grammar with productions

$$S \rightarrow bC \mid a,$$
$$A \rightarrow aA \mid \lambda,$$
$$B \rightarrow bB \mid \lambda,$$
$$C \rightarrow AB.$$

1. nunable → A, B, C

$$S \rightarrow bC \mid a \mid b$$
$$A \rightarrow aA \mid a$$
$$B \rightarrow bB \mid b$$
$$C \rightarrow AB \boxed{A} \boxed{B} \cancel{\lambda}$$

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2. Unit production

$$S \rightarrow bC \mid a \mid b$$
$$A \rightarrow aA \mid a$$
$$b \rightarrow bB \mid b$$
$$C \rightarrow AB \mid aA \mid a \mid bB \mid b$$