1. Consider the following CNF grammar: $S \rightarrow XX | \lambda; X \rightarrow a$. Show the PDA generated by applying the construction of Lemma 3.6.2 to this grammar.

2. Consider the PDA shown in Figure 3.2.
   i. Modify this PDA so that it meets the requirements given in Section 3.6.1. (Do this carefully.)
   ii. Draw the trapezoidal diagram for the computation of the modified PDA recognizing input $aabb$.
   iii. Give the CFL generated by applying the construction of Section 3.6.1 to the modified PDA.

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