

Theory of Computation (CSC 339) – Fall 2023

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Tutorial 6: Pushdown Automata

1. Give a PDA for the following language:
 $L_1 = \{a^n b b a^n | n \geq 0\}$.
2. Give a PDA for the following language:
 $L_2 = \{0^{3n} 1^n | n \geq 0\}$.
3. Give PDA for the following language:
 $L_3 = \{w | w = u \# v | u, v \in \{a, b\}^* \text{ and } |u| = |v|\}$.
4. Let C be a context-free language and R be a regular language. Prove that the language $C \cap R$ is context free.