KING SAUD UNIVERSITY COLLEGE OF COMPUTER AND INFORMATION SCIENCES DEPARTMENT OF COMPUTER SCIENCE

Theory of Computation (CSC 339) - Fall 2023

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Tutorial 6: Pushdown Automata

- 1. Give a PDA for the following language: $L_1 = \{a^n b b a^n | n \ge 0\}.$
- 2. Give a PDA for the following language: $L_2 = \{0^{3n}1^n | n \ge 0\}.$
- 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.