

CS 302
REMOTE QUIZ 4

25 March, 2021

ANSWERS

(a) (3 pts) See the relevant slide.

(b) (7 pts) We form the product automaton $A \times B$. Then the languages L_A and L_B accepted by A and B respectively, do not share a string iff $L_A \cap L_B = \emptyset$ iff the final state set of $A \times B$, namely $F_A \times F_B$ is not reachable from the initial state (s_A, s_B) .

*This is the **reachability** problem of a graph with a possible maximum of $m := |Q_A| \cdot |Q_B|$ nodes with a complexity of $O(m^2)$ as proved in class.*