

CENG 223—Discrete Computational Structures

FINAL

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Jan 18, 2021

25 minutes

Q-1) {15 points} For $n \geq 1$, let $S = \{x_1, x_2, x_3, \dots, x_n\}$ and

$$T = \{X | X \subseteq S \wedge \exists i (1 \leq i \leq n-1 \wedge x_i \in X \wedge x_{i+1} \in X)\}$$

Construct a recurrence relation a_n where $a_n = |T|$.