CENG 223—Discrete Computational Structures

Q-1) {*15 points*} For $n \geq 1$, let $S = \{x_1, x_2, x_3, \cdots, x_n\}$ 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 $a_n = |T|$.