Assignment 1. Consider the following language $L$ over the alphabet \{a, b, c\}:

$$L = \{ w \in \{a, b, c\}^* | \exists x, y \in \{a, b, c\}^*: w = xabcy \lor w = xcby \}.$$ 

a. Draw an automaton that accepts the language $L$.
b. Give a linear recursive specification for this automaton.
c. Give a deterministic and total automaton for the language $L$.
d. Are the automata in (a) and (c) bisimilar? If so, give a bisimulation relation between the two automata; otherwise, explain why they are not bisimilar.