Ex. 1

Propose a <u>deterministic</u> finite state automaton which recognizes all the words on Σ^* which start with the prefix ab, include the factor cba, and do not end with c ($\Sigma = \{a, b, c\}$).

Ex. 2

Propose a <u>complete</u> <u>deterministic</u> finite state automaton which recognizes all the words on Σ^* such that all c's are before all b's (if any), the number of c's is odd (thus $\geqslant 1$) and the number of a's is even, and b's can occur only if they are not followed by a's ($\Sigma = \{a, b, c\}$).

Ex. 3

Propose a <u>deterministic</u> finite state automaton which recognizes the language $\{w \in \Sigma^* \mid \exists u \in \Sigma^* \mid w = uu \, \& \, |w| \leqslant 4\}$, with $\Sigma = \{a, b, c\}$. L is the set of all the words of length $\leqslant 4$ which are formed by the concatenation of two identical factors.