Quiz 1

Problem 1. Complete the definitions. Be precise.

An alphabet is:

A string is:

A language is:

Problem 2. Draw a DFA $M$ for the language

$L = \{x \in \{a, b, c\}^*: x$ contains exactly one $a$ and exactly one $b\}$. 

(A string $x \in L$ can contain any number of $c$’s.) Make your DFA have as few states as possible.

Problem 3 Using the formalism of your book, specify the machine $M$ from Problem 2 as a 5-tuple: $M = (\ldots)$ where \ldots

Problem 4 List the first 5 strings of $L$ (still from Problem 2) in lexicographic order. Assume $a < b < c$. 