1. For strings containing the letters ‘a’, ‘b’, and ‘c’, give a regular expression that captures all strings that have at least two (different, consecutive) letters in alphabetical order.

2. Give a non-deterministic finite automaton that captures the regular expression from above. Show the automaton in graphical form.

3. Using the construction described in class, give a deterministic version of the automaton. You only need to show the transition table.

4. Give a reduced version of the finite automaton, using the algorithm we used in class. You only need to show the state transition diagram.

5. Build a reduced, deterministic automaton for the following regular expression:

   \[(a^*b^+c^+d^+)|(a^+b^*d^*)\]