Optional Exercises #1
COMP 3200
Fall 2023
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These are provided for you to practice and deepen your understanding. I will not be collecting them, but would be happy to answer questions about them.

For each of the languages below (assume $\Sigma = \{a, b\}$), construct either a regular expression or a FSA. Then apply the four algorithms we've discussed in class sequentially (regex → NFA → DFA → minDFA → regex) so that you get in the end the type of model for the language that you started with. Compare your initial representation with this final result. What does this teach you?

a) { w | the length of w is at least 2}
b) { w | w contains exactly one a}
c) { w | w has length that is one larger than a multiple of 3}
d) { w | the number of a's times the number of b's is 6}
e) Make up more of your own…