CECS 329, In Class Assignment 6, October 2nd, 2026, Dr. Ebert

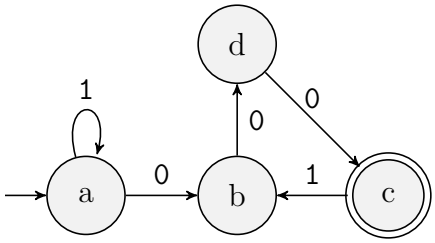
Directions. All work should only be shown on this sheet of paper which is to be turned in before the end of class.

Student 1. Your name: _____

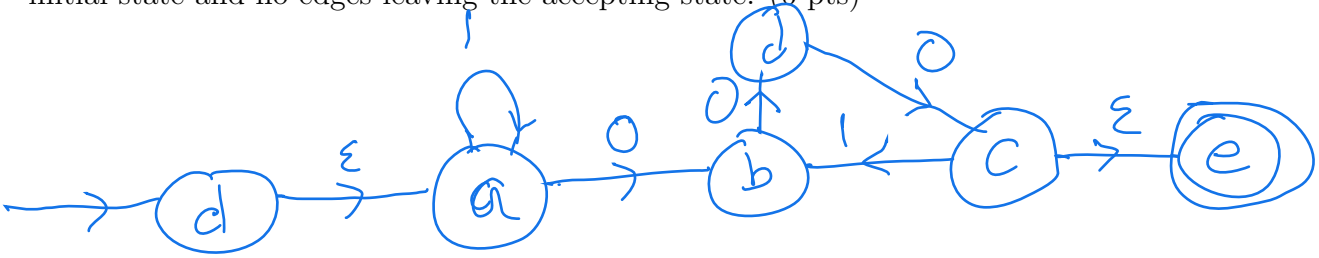
Student 2. Your name: _____

Student 3. Your name: _____

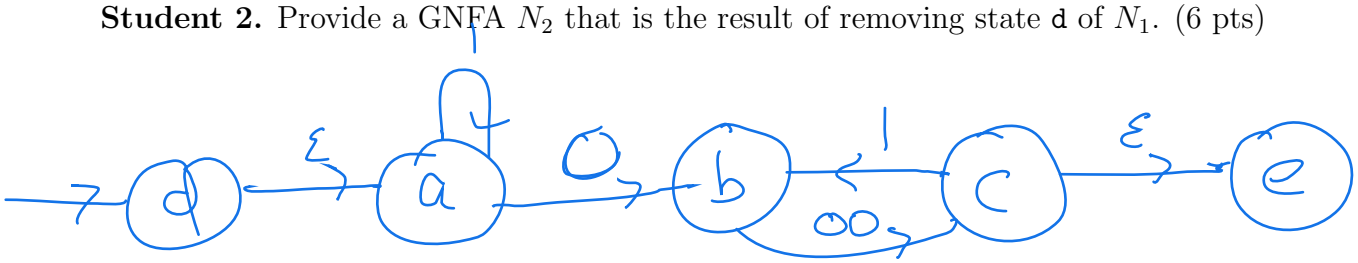
Problem. Consider the NFA N shown below.



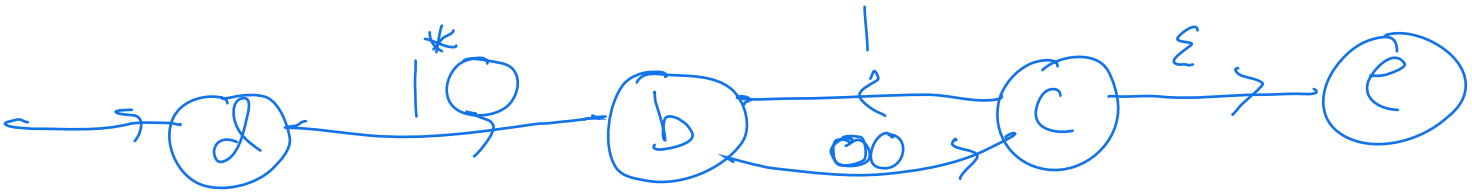
Student 1. Provide an NFA N_1 that is language-equivalent to N but has no edges entering the initial state and no edges leaving the accepting state. (6 pts)



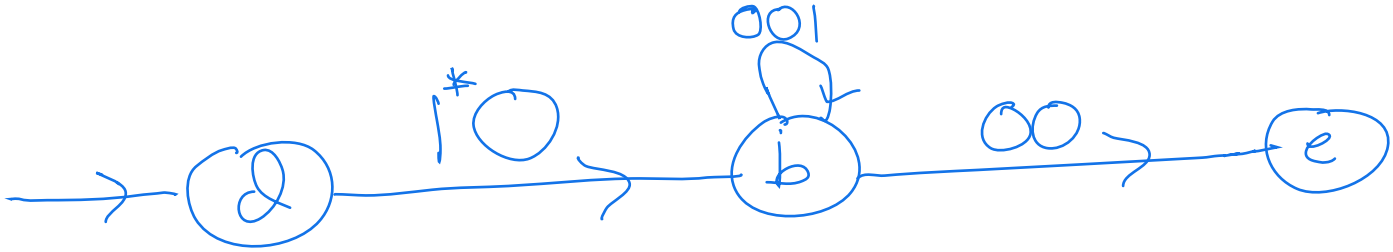
Student 2. Provide a GNFA N_2 that is the result of removing state `d` of N_1. (6 pts)



Student 3. Provide a GNFA N_3 that is the result of removing state `a` of N_2. (6 pts)



Student 1. Provide a GNFA N_4 that is the result of removing state `c` of N_3. (6 pts)



Student 2. Provide a GNFA N_5 that is the result of removing state `b` of N_4 and use it to provide a regular expression that describes the language accepted by N. (6 pts)



∴ $1^*0(001)^*00$ describes the language recognized by N