

CECS 329, In Class Assignment 1, August 31st, 2026, Dr. Ebert

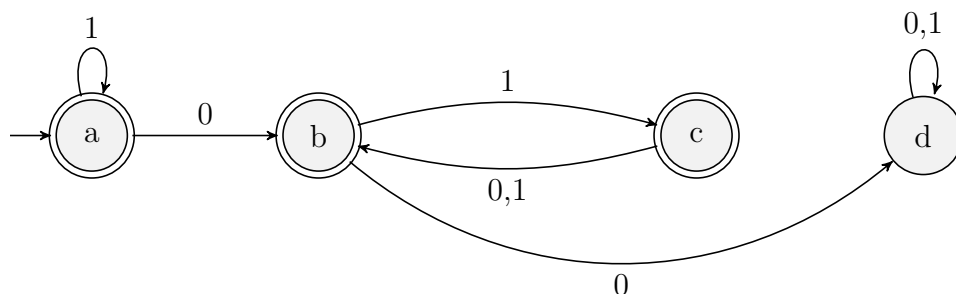
Directions. All work should only be shown on this sheet of paper which is to be turned in before the end of class. Note: each student is awarded the same amount of points which is equal to the sum of all points earned on the sheet. All problems are worth 10 points each.

Student 1. Your name: _____

Student 2. Your name: _____

Student 3. Your name: _____

Problem. Answer the following questions about the following DFA M .



1. Complete M 's δ -transition table so that Student 1 completes row 1, Student 2 completes row 2, and Student 3 completes rows 3 and 4. Students: please initialize each row that you complete.

$Q \backslash \Sigma$	0	1	Initials
a			
b			
c			
d			

2. Complete the second row of the table below which shows the sequence of states that M enters when deciding the word $w = 101110101$. Student 1 provides the first four states, Student 2 provides the next four states, and Student 3 provides the final two states. Students: please use the final row to provide your initials below the states that you've provided. Student 2: was w accepted or rejected? How can you tell?

Input	1	0	1	1	1	0	1	0	1	n/a
States										
Initials										

3. Students 1, 2, and 3: please agree upon a succinct way to describe the set of binary words that are accepted by M and elect one of you to write the description and initialize.