

PLC: Micro Assignment 2 [12.5 points]

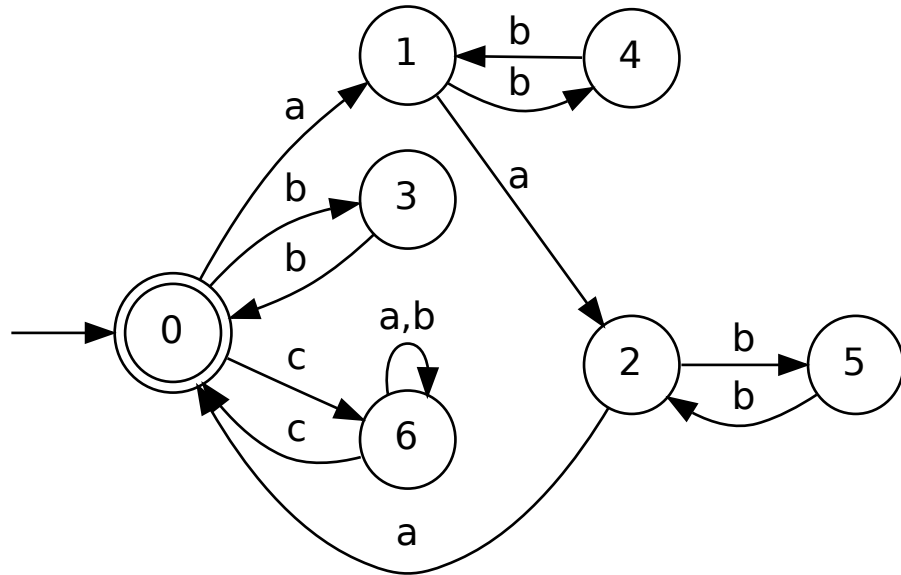
Due Thursday, Jan. 31, within first 3 minutes of class. You can volunteer to present one of your answers for 1 extra credit point. Preference will be given to students who have not presented yet.

1. Draw a nondeterministic automaton for the set of strings of a's where the number of a's is either a multiple of 3 or a multiple of 5. [2 points]

2. Draw a deterministic version of the automaton you drew for the previous problem. [3 points]

[turn over]

3. The questions below concern the following automaton:



- (a) Is this automaton deterministic or nondeterministic? [2 points]
- (b) Give an example of a **nonempty** string that is accepted by the automaton. [3 points]
- (c) Give an example of a string that is rejected by the automaton. [2 points]
- (d) Describe in English the set of strings which is accepted by the automaton. Your description should refer to global properties of the string (e.g., the number of a's it contains). [0.5 points]