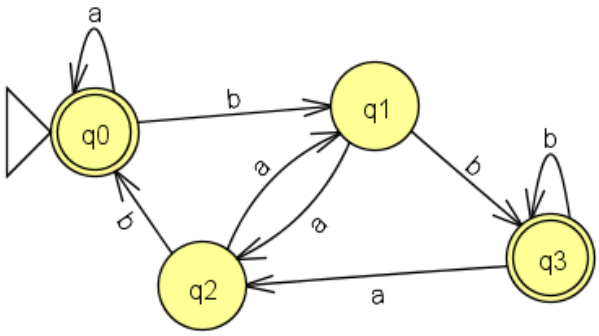
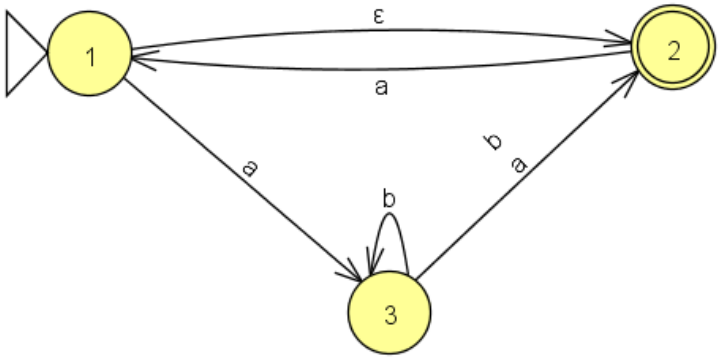
1. What is the formal definition of the machine below?



2. Give the DFA recognizing the language
L = {w | w does NOT contain the substring 110} over the alphabet {0,1}.

3. Convert the NFA below into its equivalent DFA:



4. Give the complete GREP command that should be used in order to find all single line comments in all .c program files inside a single folder.

The single line comments can either be: /*comment*/ or //comment.

5. Prove the regularity/non-regularity of the language L = { $0^n1^n2^n$ | n > 0 }.

You can use any of the following options as a proof:
a. A simple but comprehensive English description/explanation;
b. Pumping Lemma; or
c. Create a DFA, NFA, or RE.

Remember that if you want to prove the regularity of the language, you can do it only through option **c**. If you want to prove the non-regularity of the language, you can only do it through option **b**, or by explaining its proof by contradiction using option **a**.

GLHF my labs. ♥