CS 383
HW 1

due in class Wednesday, September 18

You can do it by hand as long as you do it neatly.

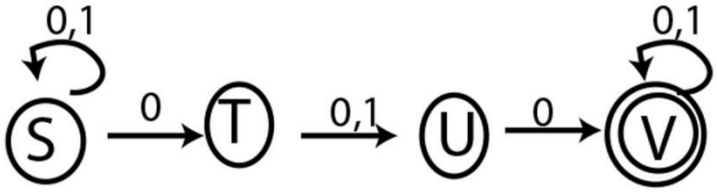
1. Give DFAs accepting the following languages over the alphabet {0,1}:
    a. The set of strings ending in 000.
    b. The set of strings containing 000 as a substring.
    c. The set of strings containing exactly three 0's.

2. Give an NFA that accepts the set of strings over the alphabet {0,1,2,3} such that the final digit in the string *has* appeared before.

3. Give an NFA that accepts the set of strings over the alphabet {0,1,2,3} such that the final digit in the string *has not* appeared before.

4. In Java an identifier (name) must be composed of letters, digits, underscore and dollar sign and can't begin with a digit. Give a DFA that accepts the valid identifiers. You can use symbols <L> and <D> to represent "any letter" and "any digit" respectively.

5. Convert the following NFA to a DFA and describe in English what strings it accepts:



6. Convert the following NFA to a DFA and describe in English what strings it accepts: