Lecture 09 (Software Implementation of DFA and NFA)

1 Approach 1 - DFA

1. Maintain a transition table of $state \times input \rightarrow state$
2. Size of this table will be very large

2 Approach 2 - NFA

1. Same as previous approach, but NFA transition table instead of DFA
2. This is more space efficient but time inefficient
3. Choice is given to lexical analysis implementation to use either of the two

3 When is NFA Better?

Verifying solution of NP-complete can be done in polynomial time on an NFA