



CSE-217: Theory of Computation

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LECTURER

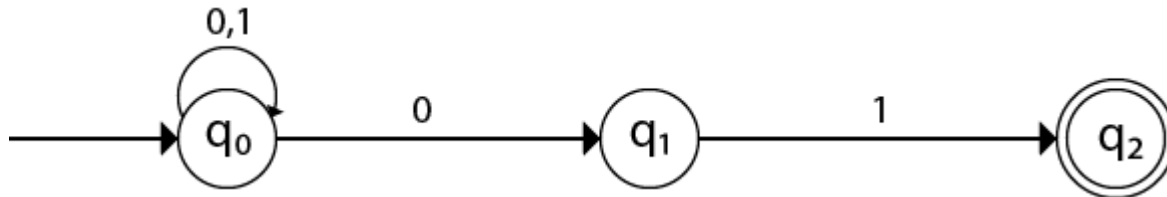
DEPT. OF CSE, MIST

NFA Design Example

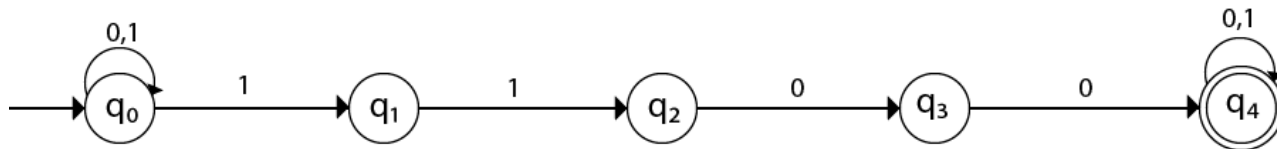
1. Design an NFA with $\Sigma = \{0, 1\}$ accepts all string ending with 01.
2. Design an NFA with $\Sigma = \{0, 1\}$ in which double '1' is followed by double '0'.
3. Design an NFA which accepts all binary strings where the last symbol is 0 or that contain only 1's.
4. Design an NFA with $\Sigma = \{0, 1, 2\}$ where each string has at least 2 symbols and each string starts and ends with same symbol.
5. Give an NFA for the set of all binary strings that have either the number of 0's odd, or the number of 1's not a multiple of 3, or both.
6. Design an NFA, N_6 which has an input alphabet $\{0\}$, accepts all strings of the form 0^k where k is a multiple of 2 or 3. For example, N_6 accepts the strings ϵ , 00, 000, 0000, and 000000, but not 0 or 00000.

NFA Design Example

1. Design an NFA with $\Sigma = \{0, 1\}$ accepts all string ending with 01.

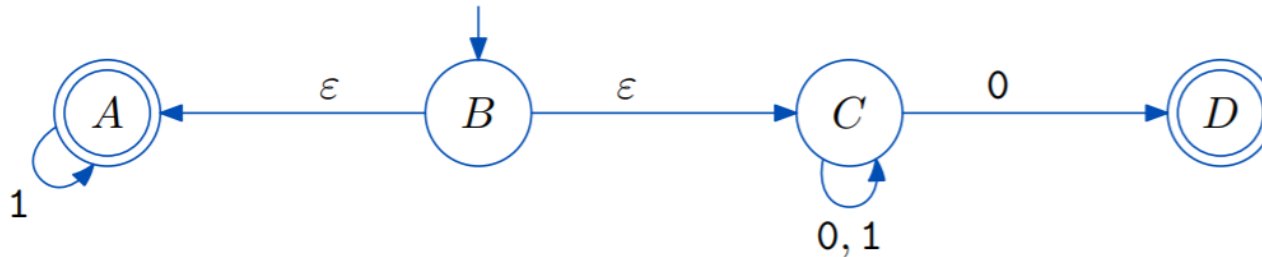


2. Design an NFA with $\Sigma = \{0, 1\}$ in which double '1' is followed by double '0'.

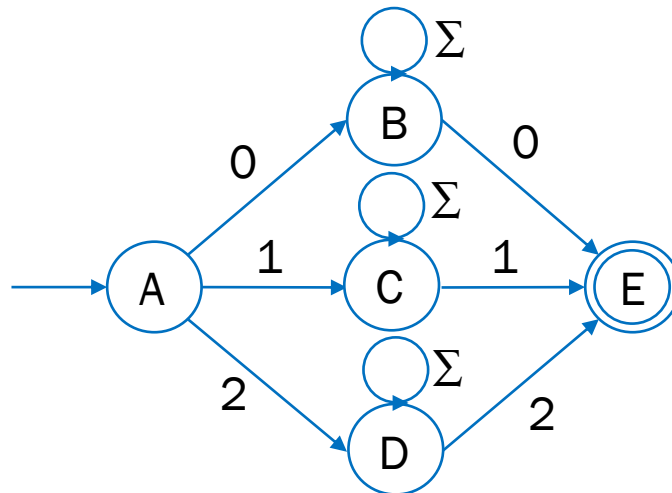


NFA Design Example

3. Design an NFA which accepts all binary strings where the last symbol is 0 or that contain only 1's.

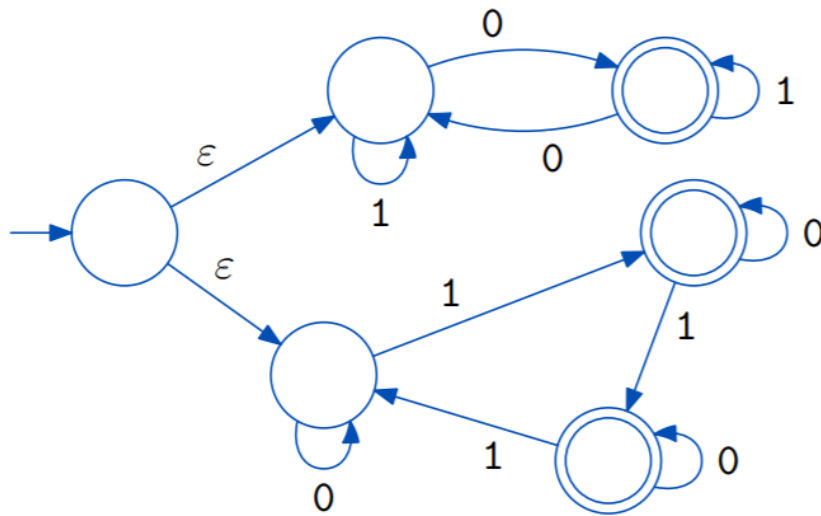


4. Design an NFA with $\Sigma = \{0, 1, 2\}$ where each string has at least 2 symbols and each string starts and ends with same symbol.



NFA Design Example

5. Give an NFA for the set of all binary strings that have either the number of 0's odd, or the number of 1's not a multiple of 3, or both.



NFA Design Example

6. Design an NFA, N_6 which has an input alphabet $\{0\}$, accepts all strings of the form 0^k where k is a multiple of 2 or 3. For example, N_6 accepts the strings ϵ , 00, 000, 0000, and 000000, but not 0 or 00000.

