
1: Formal Definition

(a) Draw the NFA diagram given by the following formal definition:

$$N = (\{A, B, C, D\}, \{0, 1\}, \delta, B, \{A, D\})$$

| δ | 0 | 1 | ϵ |
|----------|--------|-----|------------|
| A | | {A} | |
| B | | | {A, C} |
| C | {C, D} | {C} | |
| D | | | |

(b) Which language does the NFA recognize?

2: Design a NFA

Construct a NFA that recognizes the following languages, assuming alphabet $\{0, 1\}$

(a) $L_1 = \{w \mid w \text{ ends with } 01\}$

(b) $L_2 = 0^*1^*0^+$

3: NFA to DFA

Convert the following NFA to a DFA.

