957, 958, 959, 960, 961

$(p \vee q) \wedge (\neg p \vee \neg q)$

$\varphi(x_1, \ldots \quad x_n)$

$\underbrace{x_1 \oplus \ldots \oplus x_n}$

NNF $\quad 4n$

$\underline{\{0,1\}^n} \qquad 2^n$

2^{n-1}

$\underset{x_1}{\{0,1\}} \times \underset{x_2}{\{0,1\}} \times \cdots \underset{x_n}{\{0,1\}}$

$\underline{\underline{\Sigma}} = \{a, b, c, d\}$ alphabet (finite)

a
aa
aab
abac

String: finite seq. of letters from Σ

$a \cdot b \neq b \cdot a$

$(a \cdot b) \cdot c = a \cdot (b \cdot c)$

ε : empty string

" "

$\Sigma_1 = \{a, b\}$

$\Sigma_2 = \{c, d\}$

$\sigma \cdot \varepsilon = \sigma = \varepsilon \cdot \sigma$ for any string σ

Language: A subset of the set of all finite strings on Σ

Σ^* : Set of all finite strings on Σ, including ε

Σ^+ : " " " " " ", excluding ε

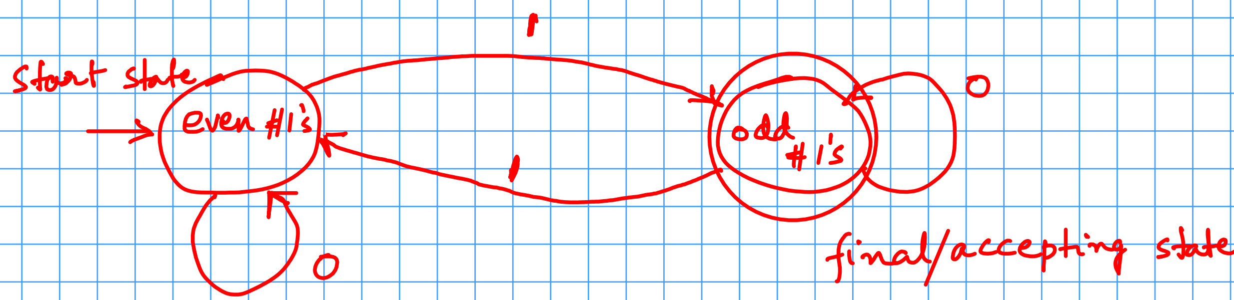
$\Sigma = \{a, b, c\}$

Is Σ^* countably inf?

Example: $\Sigma = \{0, 1\}$

$\rightarrow L = \{ w \mid w \in \Sigma^*, \ \#1\text{'s in } w \text{ is odd} \}$

State: summary of what has been seen so far.



Deterministic Finite Automaton (DFA)

$L_1 = \{ w \mid w \in \Sigma^*, \ \#0\text{'s is a multiple of } 3$
or $\#0\text{'s} \bmod 3 = 2 \}$