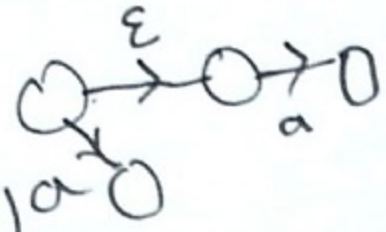
제8강. 9/30(화) Extension of FA's.

수학의 발전.
반례(counter example)
을 포함하는
개념

DFA $\xrightarrow{\text{ext.}}$ NFA
$\xleftarrow{\text{subset const.}}$

2.5 FA with ε-moves. (Transitions)

ε-NFA



$A = (Q, \Sigma, \delta, q_0, F)$

$\delta : Q \times (\Sigma \cup \{\varepsilon\}) \to 2^Q$ (vs. Q)

Chap3. Regular expressions over alphabet Σ defined (denote) as language over Σ.

Basis 1. ε, ϕ
{ε} {}

2. $a \in \Sigma$
{a}

Recursion 1. E $L(E)$ $L(E+F) = L(E) \cup L(F)$
i.e. F $L(F)$

" $L(EF) = L(E) \cdot L(F)$

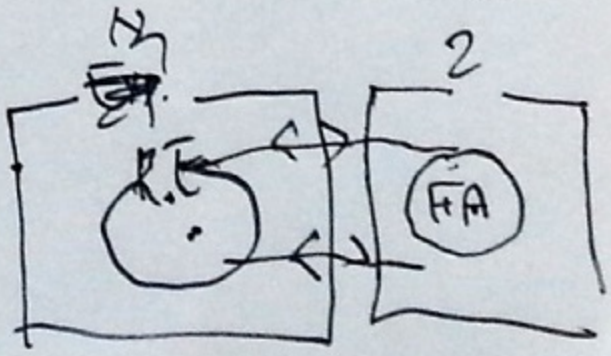
2. " $|L(EF)| \leq |L(E)| \times |L(F)|$

3. L $L(E)$ $L(E^*) = L(E)^*$

where $L^* = L^0 \cup L^1 \cup L^2 \cup \dots$ where $L^0 = \{\varepsilon\}$

$= \bigcup_{i \in N_0} L^i$

4. $L((E)) = L(E)$



$(0|1)^*011$, $011(0|1)^*$, $(0|1)^*011(0|1)^*$

$0+0+0+\dots$ ... R.E.'s are inherently ambiguous
애매모호한

Def. 식의 cfg
Basis. 1 숫자, 문자
Ind. 식+식, 식*식
식-식, 식÷식
sin식, 식

3.2.3 Converting RE to FA. (text book p. 102)

3.5.3 Epsilon-closure (text)

ε^*

$\varepsilon : Q \to 2^Q$

$2^Q \to 2^Q$

ε^* : Basis $q \in \varepsilon^*(q)$

Recursion If $p \in \varepsilon^*(q) \wedge$ 

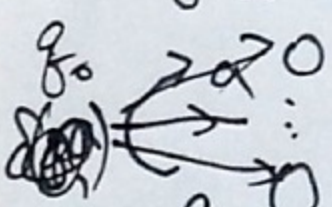
$r \in \varepsilon(p)$

$\Updownarrow$

$r \in \delta(p, \varepsilon)$

NFA $\longrightarrow$ DFA

$\{q_0\}$



ε-NFA $\longrightarrow$ DFA

q_0-E

$\varepsilon^*(q_0\text{-E})$

$\downarrow \delta(\varepsilon^*(q_0\text{-E}), a)$