

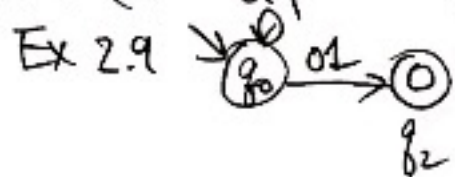
제8강 9/21 (木) Chap 3. Regular Expressions (& Languages)

FA의 정의 (활성)

Reviews:

DFA \rightarrow class of Regular Language
 DFA with partial function
 NFA
 ϵ -NFA

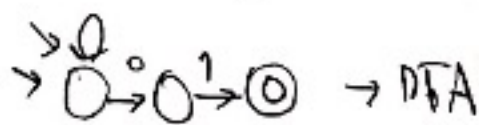
XFA (Extended FA)



$S(q_0, 01) = \{q_2\}$

- $Q \times \Sigma \rightarrow Q$
- $Q \times \Sigma \rightarrow Q \cup \{\emptyset\}$
- $Q \times \Sigma \rightarrow 2^Q$
- $Q \times \Sigma \cup \{\epsilon\} \rightarrow 2^Q$
- $Q \times \Sigma^* \rightarrow 2^Q$

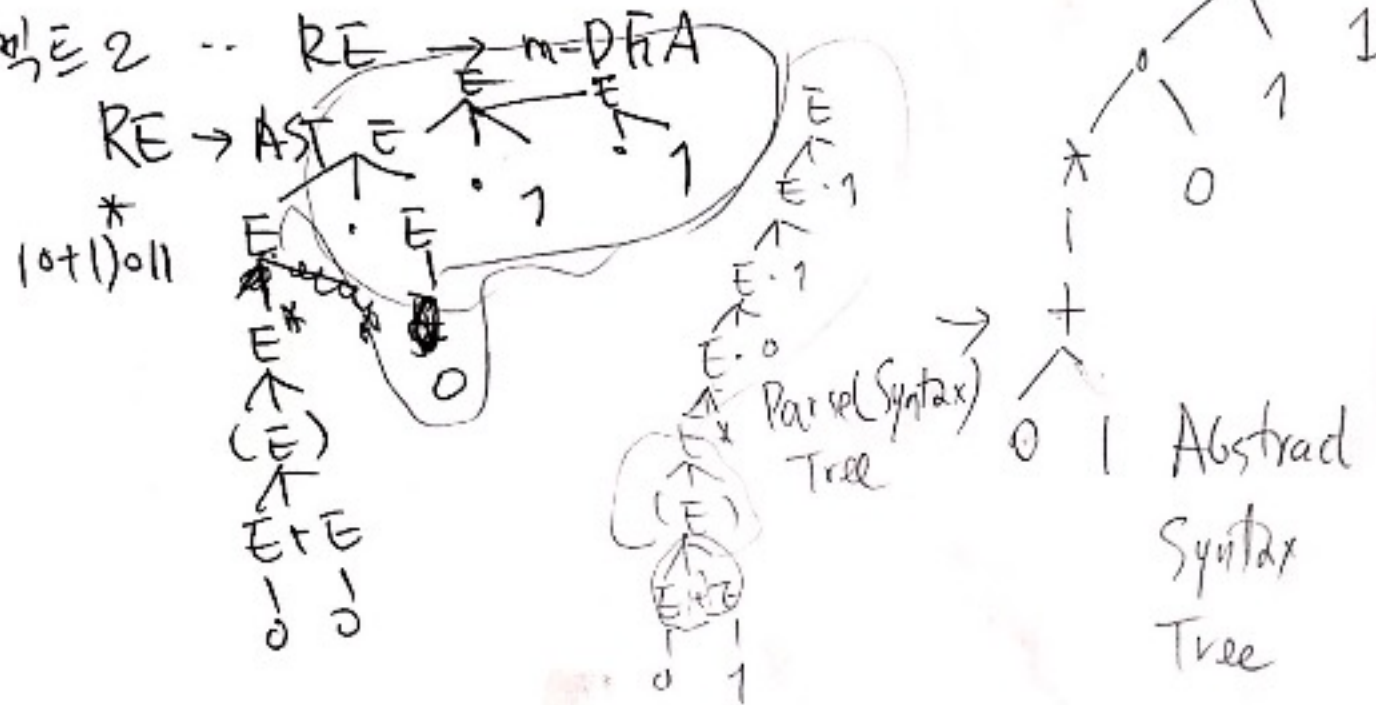
$2^A \triangleq \{B \subseteq A\}$
 \equiv
 Power(A)
 $P(A)$
 $2^A \quad |2^A| = 2^{|A|}$



$\epsilon^*(g)$ 구하는 algorithm.
 reachable vertices in a directed graph.
 DFS or BFS. $O(m^2)$

본 포스트 1 - 한글 문자 쓰기 문제와 in 컴퓨터 \rightarrow 비트

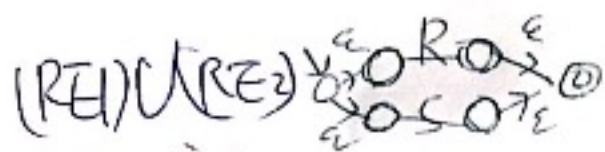
본 포스트 2 ..



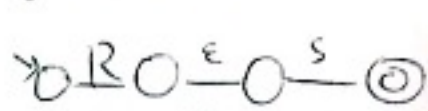
Def Regular expression.

⊙ Syntactic Def. of RE over T

$$\langle RE \rangle \rightarrow \langle RE \rangle + \langle RE \rangle$$



$$| \langle RE \rangle \cdot \langle RE \rangle \quad (RE1) \cdot (RE2)$$

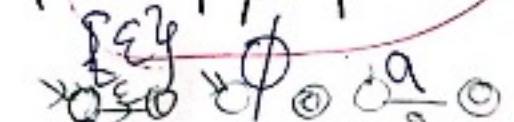


$$| \langle RE \rangle^* \quad (RE)^*$$

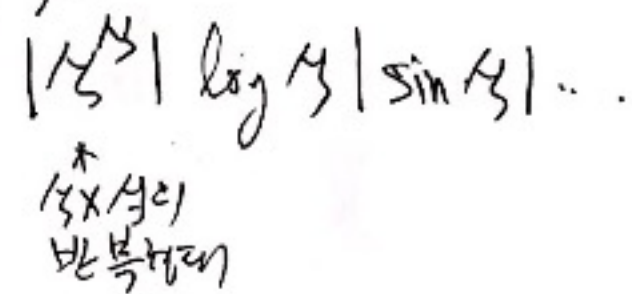
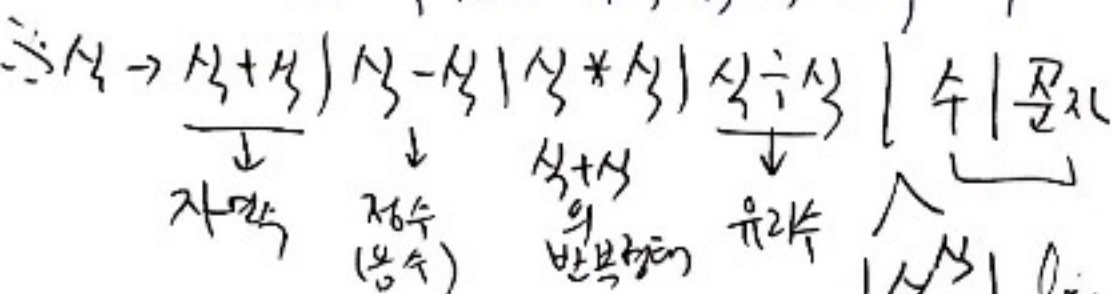


$$| (\langle RE \rangle) RE \quad \text{Basis}$$

$$| \epsilon \mid \emptyset \mid a \quad \text{where } a \in T.$$



⊙ Semantics of RE $\{ \epsilon, \emptyset, a, \cup, \cdot, ^* \}$



$$RE \xrightarrow{\text{Method 1}} FA$$

$$FA \xrightarrow{\text{Method 2}} RE$$

$$FA \rightarrow RE$$

$$L_{ij} = \{ x \in T^* \mid \delta(q_i, x) = q_j \}$$

L_{ij} 는 주어지기 쉽지는 않으나 2개의 다음번(大)

$L_{ij} = ?$ 2는 생각할 수 (안 관영이 5~10 불 동안 강타함)

왜, 어떻게?