

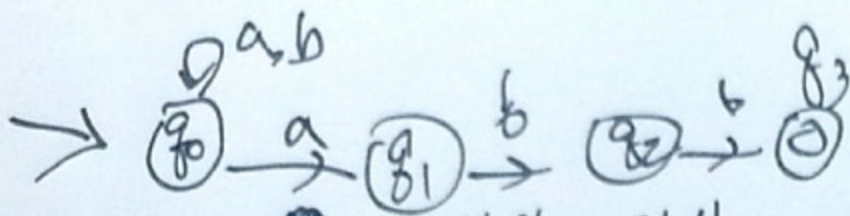
9/25 (2/7) 제7강 Non-deterministic FA (NFA)

2-3 NFA

Def:  $N = (Q, \Sigma, \delta, q_0, F)$

$Q, \Sigma, \delta, F$  는 DFA와 같음.

$\delta_{NFA}: Q \times \Sigma \rightarrow 2^Q$       $\delta_{DFA}: Q \times \Sigma \rightarrow Q$



최종 지점  
植物: 4 知 誠意 正心

수업 제가 치국 프로그램  
3/23, 4/23 2장

Let  $M_D$  be a DFA  $\exists L = L(M_D)$

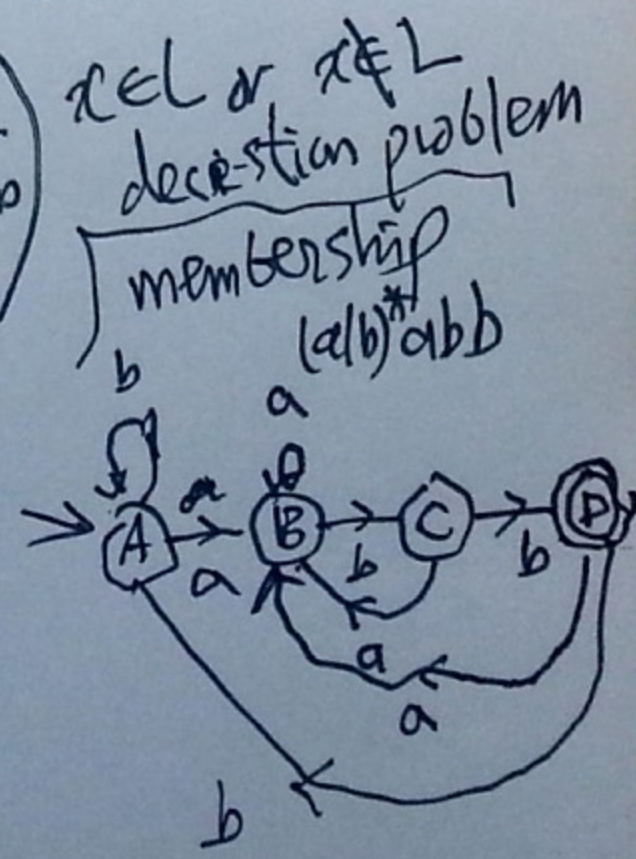
Then  $\exists$  NFA  $M_N \exists L = L(M_N)$

~~Alg~~  $M_D \rightarrow M_N$

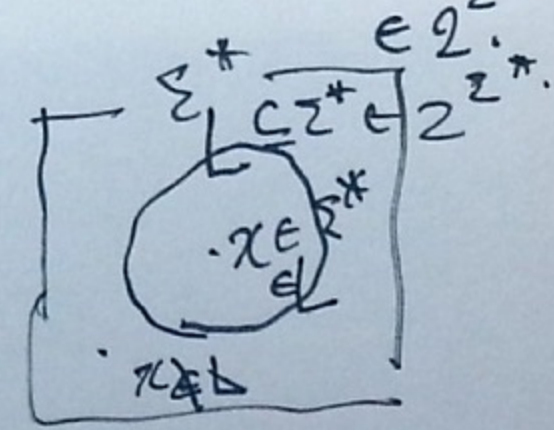
$M_N \rightarrow M_D$   
 $= (Q_N, \Sigma, \delta_N, q_0, F_N) = (2^{Q_D}, \Sigma, \delta_D, q_0, F_D)$   
 subset construction

	a	b
$q_0$	$\{q_0, q_1\}$	$\{q_0\}$
$q_1$	$\emptyset$	$\{q_2\}$
$q_2$	$\emptyset$	$\{q_3\}$
$q_3$	$\emptyset$	$\emptyset$

A	$\{q_0\}$	B	$\{q_0, q_1\}$	A	$\{q_0\}$
B	$\{q_0, q_1\}$	B		C	$\{q_0, q_2\}$
C	$\{q_0, q_2\}$	B	$\{q_0, q_1\}$	D	$\{q_0, q_3\}$
F	$\{q_0, q_3\}$	B		A	$\{q_0\}$



DFA는 NFA의 일종  
 regular lang.  
 2개나 받아들이는 언어를 가리키는 것임  
 set (class)  
 symbol  $a \in \Sigma$   
 voc. (dep)  $\Sigma$   
 string  $x \in \Sigma^*$   
 언어 language  $L \subseteq \Sigma^*$



$x \in L$  or  $x \notin L$   
 decision problem  
 membership  
 $(ab)^*abb$