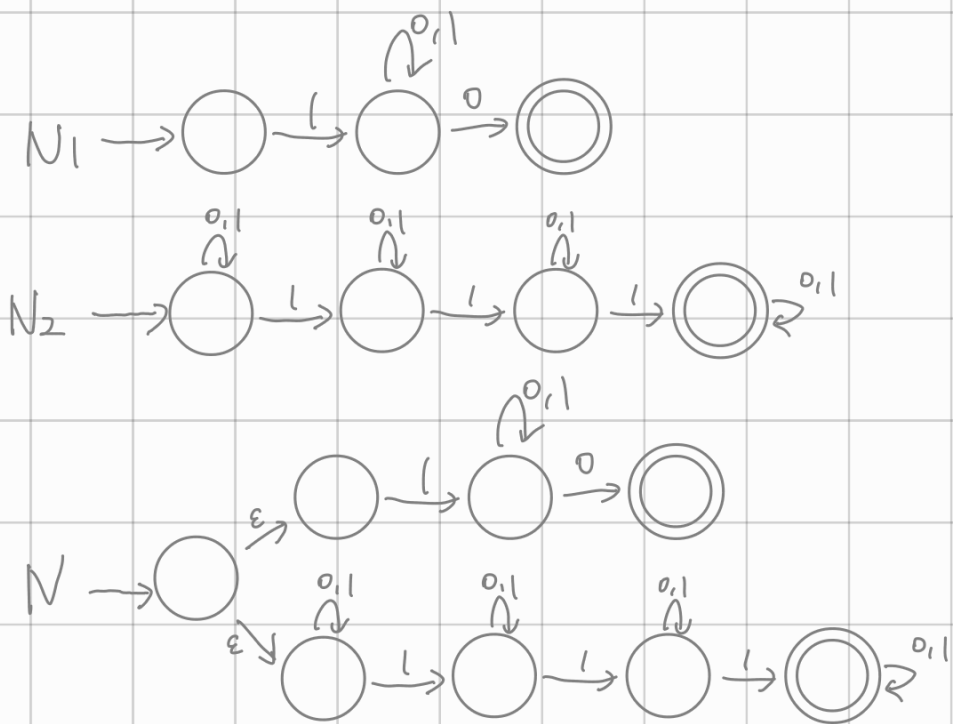
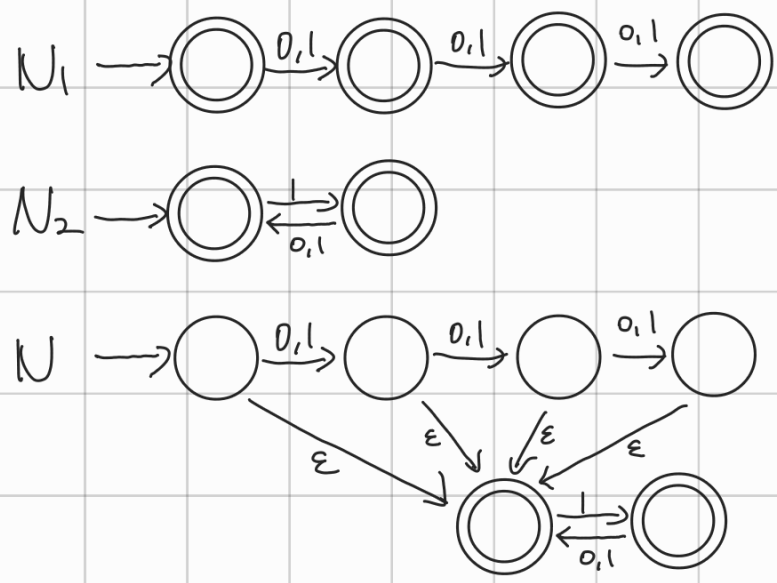


A. $\Sigma = \{0, 1\}$ 일 때, 다음을 만족하는 NFA N_1, N_2, N 의 State diagram을 그리시오.

- 1.8(a) $L(N) = L(N_1) \cup L(N_2)$
 $L(N_1) = \{w : w \text{ begins with a 1 and ends with a 0.}\}$
 $L(N_2) = \{w : w \text{ contains at least three 1s.}\}$



- 1.9(a') $L(N) = L(N_1) \circ L(N_2)$
 $L(N_1) = \{w : \text{The length of } w \text{ is at most 3.}\}$
 $L(N_2) = \{w : \text{every odd position of } w \text{ is a 1.}\}$

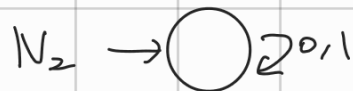
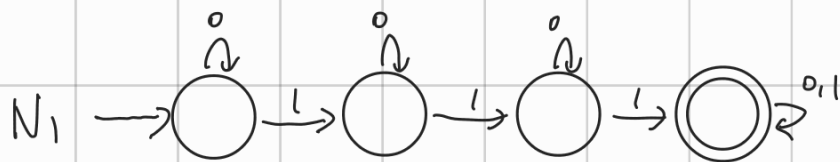


'010'도 accept 됨
 $\frac{N_1}{N_2}$
 '0000'은 안됨

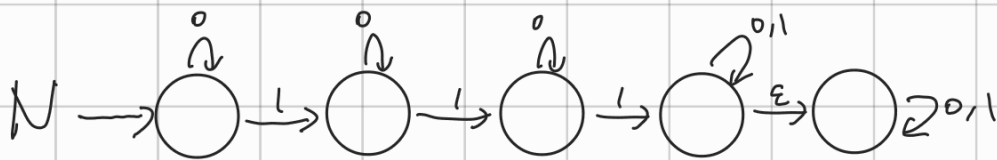
1.9(b) $L(N) = L(N_1) \circ L(N_2)$

$L(N_1) = \{w : w \text{ contains at least three 1s.}\}$

$L(N_2) = \emptyset$

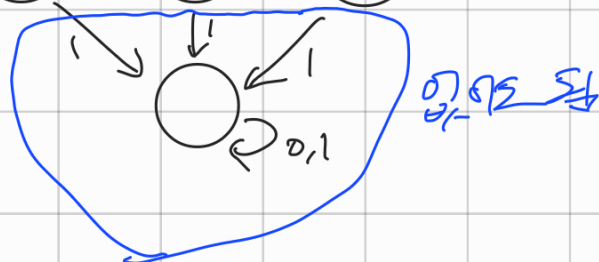
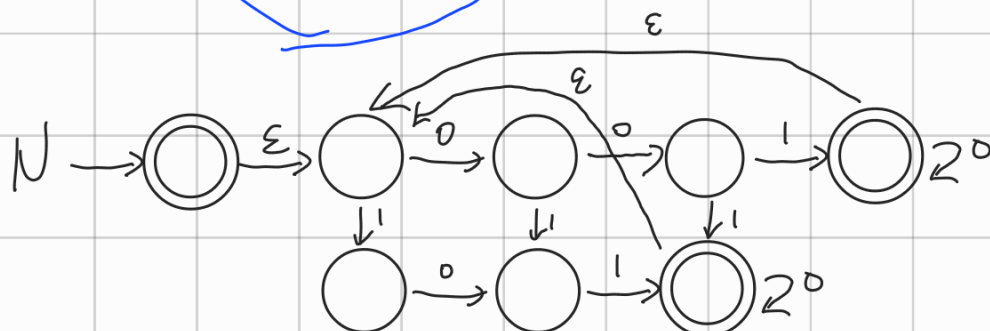
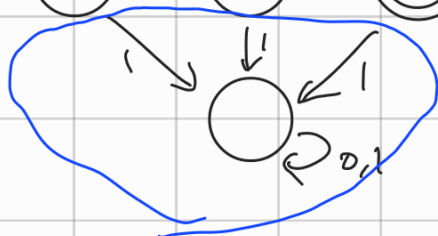
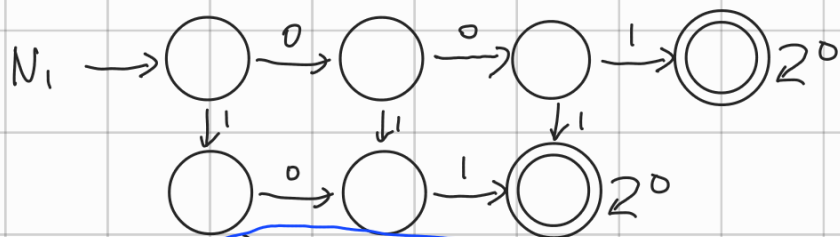


$L(N_1 \circ N_2) = \emptyset$
 \emptyset ($\because N_2$ 가 공집합)



1.10(b) $L(N) = L(N_1)^*$

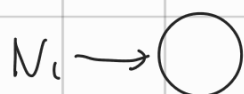
$L(N_1) = \{w : w \text{ contains at least two 0s and at most one 1.}\}$



FS self-loop

1.10(c) $L(N) = L(N_1)^*$

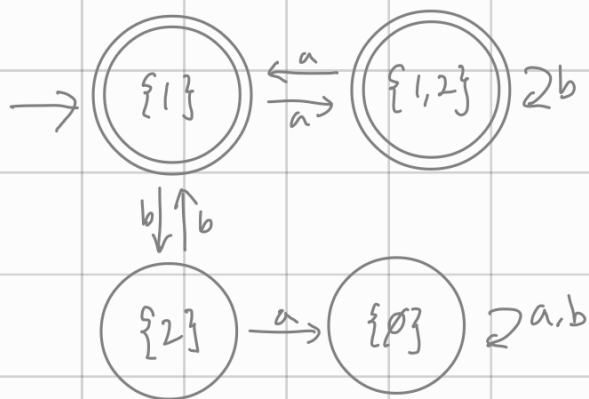
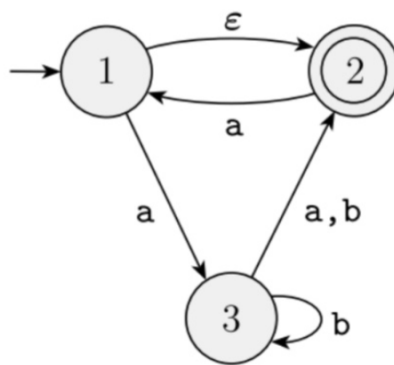
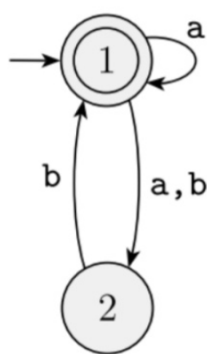
$L(N_1) = \emptyset$



$L(N) = \{\epsilon\}$

$\emptyset^* = \{\epsilon\}$ 가능

B. 1.16(a),(b) 다음 NFA와 동등한 DFA의 State diagram을 그리시오. 단, “start state에서 도착가능한” state들만을 그리시오.



B. 1.16(a),(b) 다음 NFA와 동등한 DFA의 State diagram을 그리시오. 단, “start state에서 도착가능한” state들만을 그리시오.

