

## 2.2.1

a) a, aa, e kabul edilir. aab kabul edilmez.

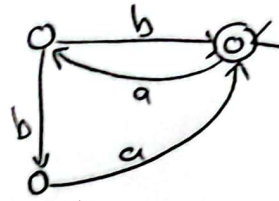
b) e, ab, abab, aba kabul edilir. abaa kabul edilmez.

## 2.2.2

a)  $a^*$ . ikinci durumu silebiliriz (dead state).

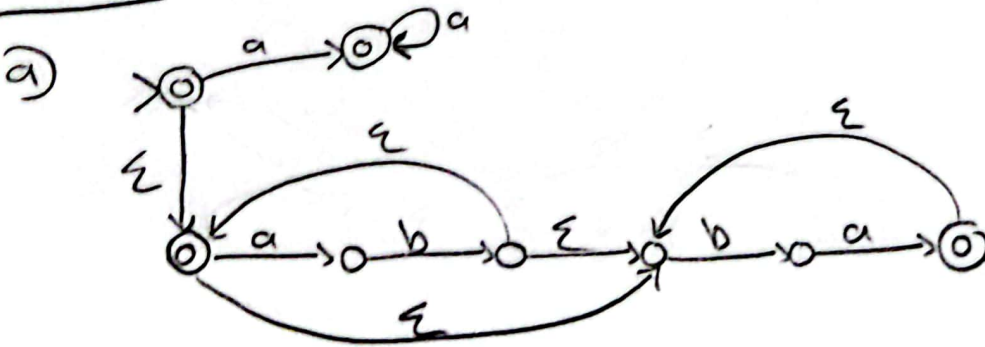
b)  ~~$(ab)^* \cup (aba)^*$~~ .

Başlangıç durumu kaldırarak  
yandaki NFA elde edebiliriz  
ve aynı sonuca sahiptir.



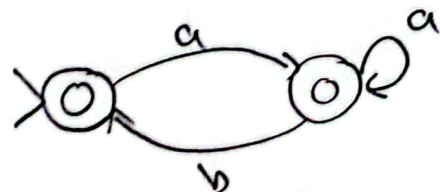
$(ab \cup aba)^*$

## 2.2.3



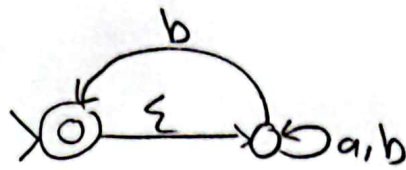
$$\begin{aligned} \text{b) } ((ab \cup aab)^* a^*)^* &= ((ab \cup aab) \cup a)^* \\ &= (ab \cup aab \cup a)^* = (ab \cup a)^* \end{aligned}$$

Çünkü: aab = a sonra ab

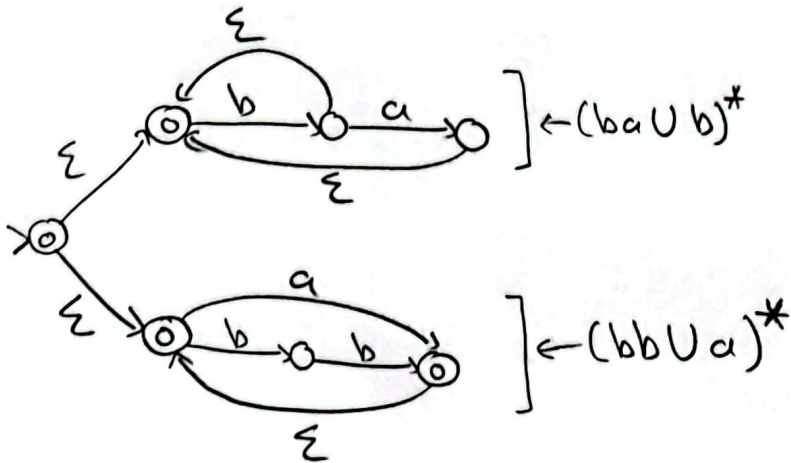


$$c) ((a^* b^* a^*)^* b)^* = ((a \cup b \cup a)^* b)^*$$

$$= ((a \cup b)^* b)^*$$



d)



2.2.6

a)

