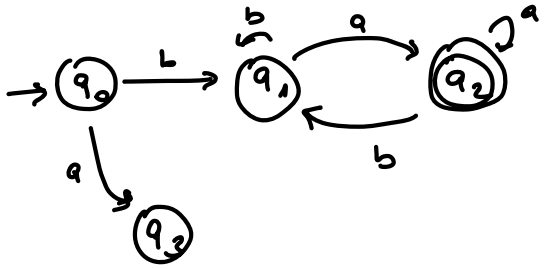
171213063
Ali: Birkan BAYRAM

Otomata Ödev 29

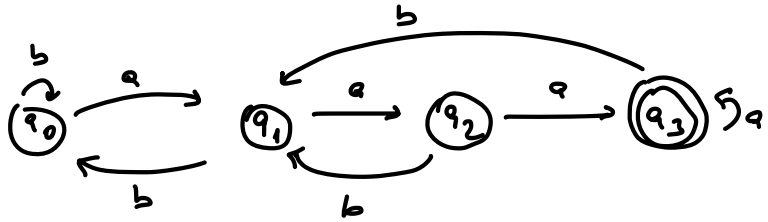
Ödev 29.1:

$b(a+b)^*a$



Ödev 29.2:

$(a+b)^*aa(a+b)^*a$

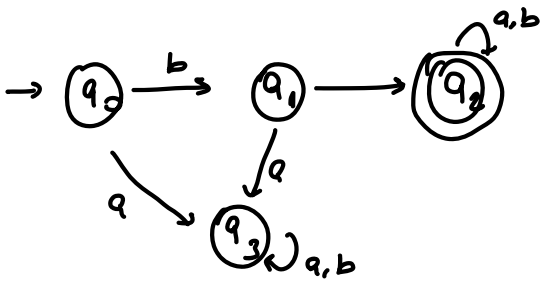


Ödev 29.3:

$L_1 \cap L_2$ yoktur. Bir kelime hem "a" hem "b" sembolüyle bitemez.

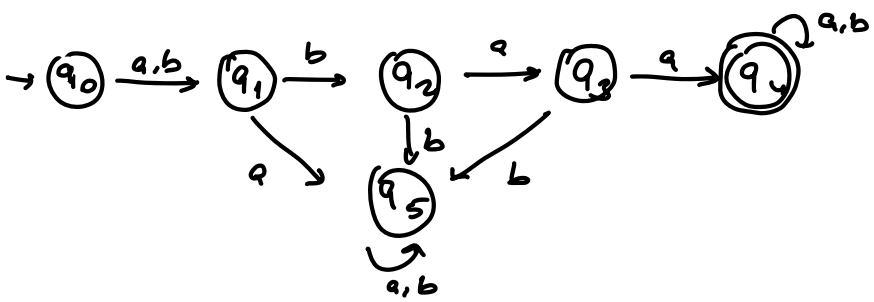
Ödev 29.4:

$bb(a+b)^*$



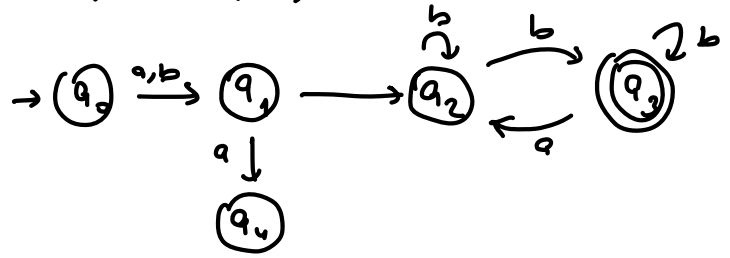
Ödev 29.5:

$(a+b)\,boa\,(a+b)^*$



Ödev 29.6:

$(a+b)\,b\,(a+b)^*\,b$



Ödev 29.7:

$L_1 \cap L_2$ yoktur.

↳ L_1: ardışık "a" içermeyen kelimelerin dili.

↳ L_2: ardışık "a" içeren bir dil.

→ Yani kesişimleri mevcut değildir.

Ödev 29.8:

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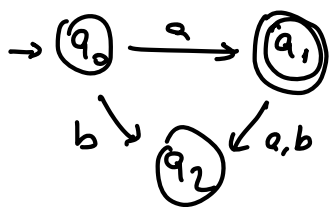
Ödev 29.9.

$L_1 \cap L_2 = \{$"a"$\}$ yalnızca "a" harfini tek başına kelime olarak kabul eder.



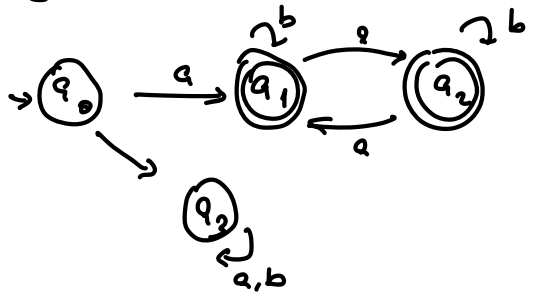
Ödev 29.10.:

$L_1 \cap L_2$ yoktur. L_1 her durumda "a" harfi ile başlar ya da "λ" değerini alır. L_2 ise "b" harfi ile başlamak zorunda değildir.

Ödev 29.11:

L_1 dili: L_2 dilini kapsar. Buradan $L_1 \cap L_2 = L_2$'dir.

L_2: $a(a+b)^*$

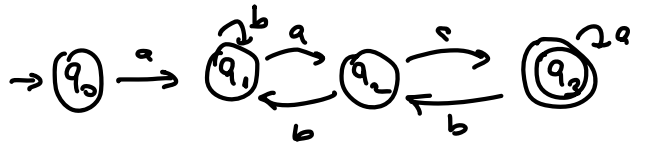


Ödev 29.12:

L_1 = a ile başlayan yada "*" olan kelimeler

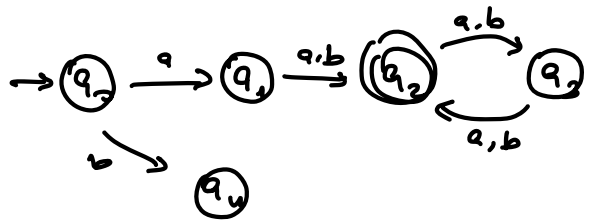
L_2 = "aa" içeren kelimeler

$L_1 \cap L_2 = a(a+b)^* aa (a+b)^*$



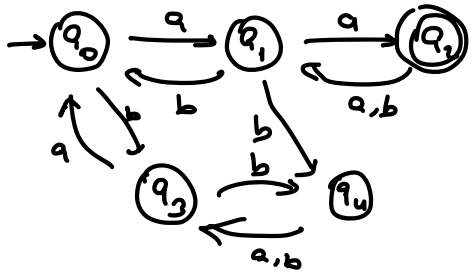
Ödev 29.13:

$a(a+b)(aa+ab+ba+bb)^*$



Ödev 29.14:

$(aa+ab+ba+bb)^* aa (aa+ab+ba+bb)^*$



Ödev 29.15:

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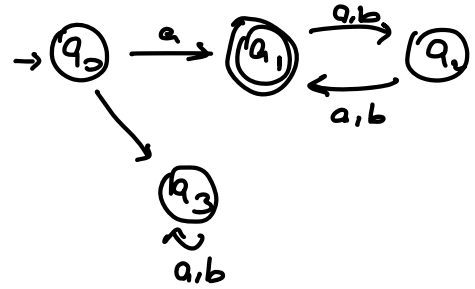
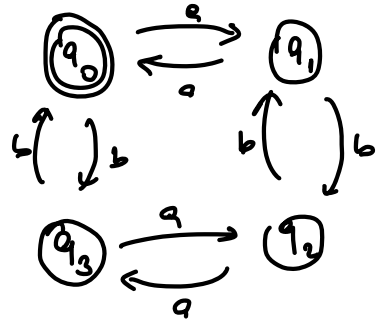
Ödev 29.16:

$a(aa+ba+ab+bb)^*$

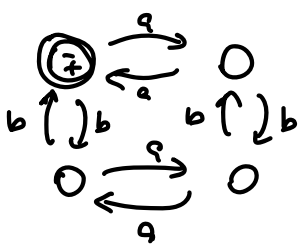


Ödev 29.17:

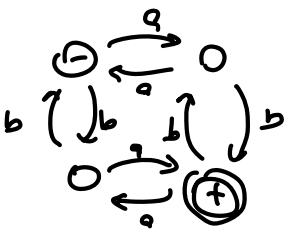


Ödev 29.18:

i)

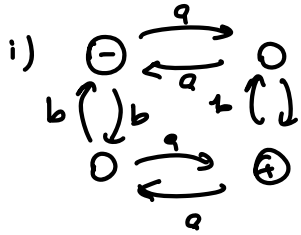


ii)



Ödev 29.19:

i)



ii) $L_1 \cap L_2$ yoktur. Çünkü: "a" sayısı tek "b" sayısı çift olursa kelime uzunluğu çift olamaz.