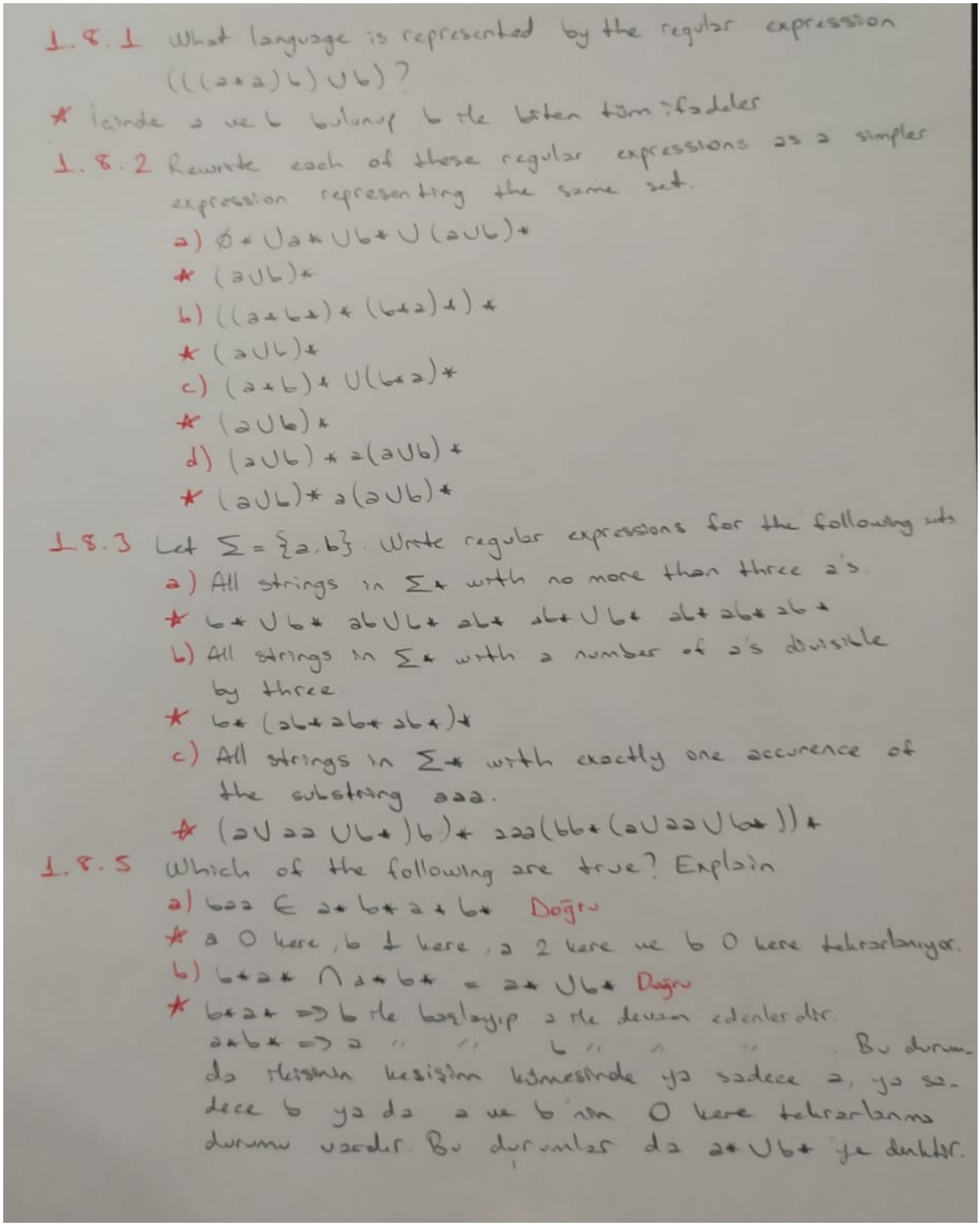
BİÇİMSEL DİLLER VE OTOMATA TEORİSİ
Ödev-2



1.8.1 What language is represented by the regular expression (((a*a)b)∪b)?

★ İçinde a ve b bulunup b ile biten tüm ifadeler

1.8.2 Rewrite each of these regular expressions as a simpler expression representing the same set.

a) ∅*∪a*∪b*∪(a∪b)*

★ (a∪b)*

b) ((a*b*)*(b*a)*)*

★ (a∪b)*

c) (a*b)*∪(b*a)*

★ (a∪b)*

d) (a∪b)*a(a∪b)*

★ (a∪b)*a(a∪b)*

1.8.3 Let Σ={a,b}. Write regular expressions for the following sets

a) All strings in Σ* with no more than three a's.

★ b*∪b*ab∪b*ab*∪b*ab*∪b*ab*ab*

b) All strings in Σ* with a number of a's divisible by three.

★ b*(ab*ab*ab*)*

c) All strings in Σ* with exactly one occurence of the substring aaa.

★ (a∪aa∪b*)b)*aaa(bb*(a∪aa∪b*))*

1.8.5 Which of the following are true? Explain

a) baa ∈ a*b*a*b* Doğru

★ a 0 kere, b 1 kere, a 2 kere ve b 0 kere tekrarlanıyor.

b) b*a* ∩ a*b* = a*∪b* Doğru

★ b*a* => b ile başlayıp a ile devam edenlerdir.
a*b* => a " " b " " . Bu durum da hepsinin kesişim kümesinde ya sadece a, ya sadece b ya da a ve b'nin 0 kere tekrarlanma durumu vardır. Bu durumlar da a*∪b* ye denktir.

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