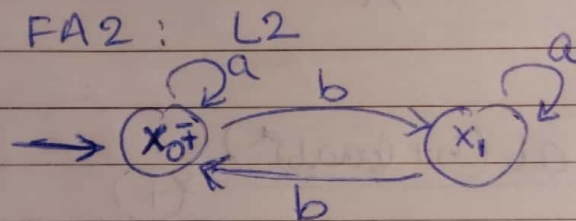
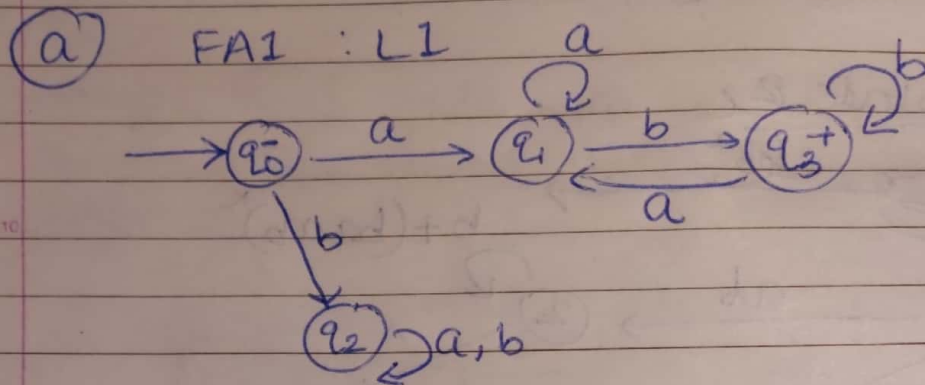


Q2

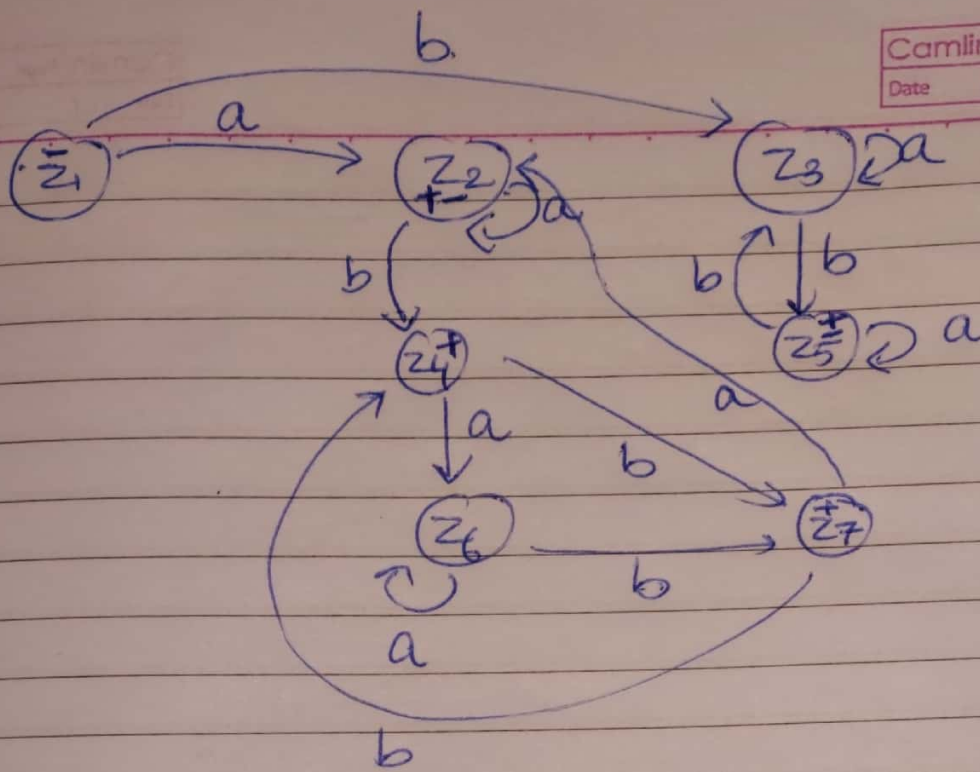
Q1. L1 : all words begin with 'a' and end with 'b'

L2 : all words with even numbers of 'b'.



(b) Kleene's Th^m L1 + L2

	new state	Input 'a'	Input 'b'
--	q ₀ x ₀ (Z1)	q ₁ x ₀ (Z2)	q ₂ x ₁ (Z3)
- +	q ₁ x ₀ (Z2)	q ₁ x ₀ (Z2)	q ₃ x ₁ (Z4)
.	q ₂ x ₁ (Z3)	q ₂ x ₁ (Z3)	q ₂ x ₀ (Z5)
+	q ₃ x ₁ (Z4)	q ₁ x ₁ (Z6)	q ₃ x ₀ (Z7)
- +	q ₂ x ₀ (Z5)	q ₂ x ₀ (Z5)	q ₂ x ₁ (Z3)
.	q ₁ x ₁ (Z6)	q ₁ x ₁ (Z6)	q ₃ x ₀ (Z7)
++	q ₃ x ₀ (Z7)	q ₁ x ₀ (Z2)	q ₃ x ₁ (Z4)



U+L2

