Biçimsel diller ve otomata vize sınavı

$S \Rightarrow B \mid AC \mid BS$

$A : aA \mid af$

$B : CF \mid b$

$C : CC \mid D$

$D \Rightarrow C \mid aD \mid BD$

$E : DA \mid BSA$

$F : bB \mid b$

C, D → birbirleri ile ilgili oldukları için yararsız simgelerdir.

$S : B \mid BS$

$A : aA \mid aF$

$B : b$ ⟹ A, E, F yararsız değişkenlerdir.

$E : aA \mid BSA$

$F : bB \mid b$

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yararsız değişken, yararsız kural yararsız simgesiz hal:

$G : \langle V_n, V_T, P, S \rangle$

$V_n : \{S, B\}$

$V_T : \{b\}$

$P : S \Rightarrow B \mid Bs$

$\quad\quad B \Rightarrow b$
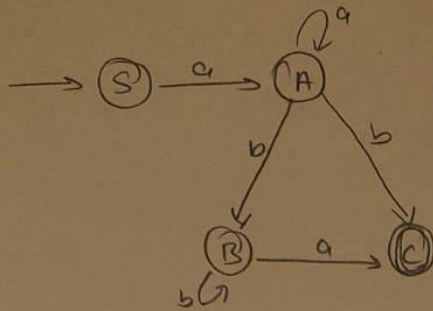
SORU 3

$$(110 + 001)^* / (001 + 110)^*$$

Çizerek
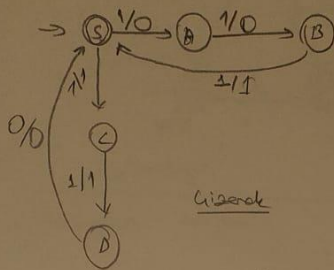
	0 z=0	1 z=1
(S)	A,0	C,1
A	B,0	—
B	—	S,1
C	—	D,1
D	S,0	—
E (ø)	ø	ø

Çizelge

S A B C D E
     ↓   ↘

        A B̄ C̄ D Ē
       ↙   ↘
  S   B E E S Ē S D E E
 0↙ ↘1
A   C

  S   A D   B C E
 ↙ ↘₁   ↙   ↙ ↘
A   C   B S   E E E   S D E

SORU 4

Çizelge
_____
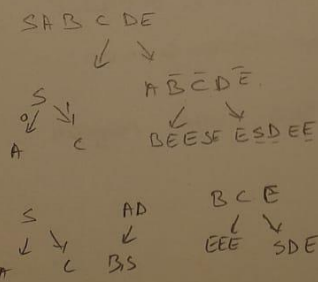
Düzgün deyim

$S = aA$

$A : aA \mid bB \mid b$

$B : bB \mid a$

$S \Rightarrow ab$
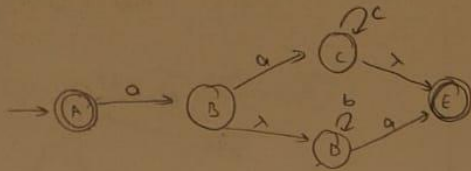
$S : aaA \Rightarrow aab$

$S : aaaA \Rightarrow aaab$

$S : aaA \Rightarrow aabB \Rightarrow aabbB \Rightarrow aabba$

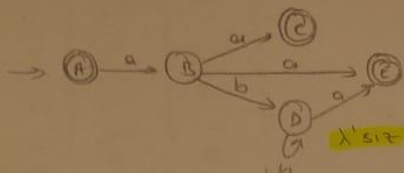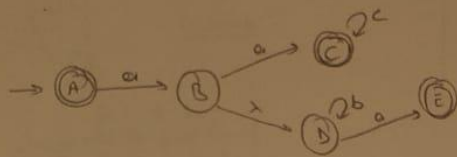$: aaaA \Rightarrow aaabB \Rightarrow aaabbbB \Rightarrow aaabbba$

düzgün deyim: $aa^* bb^* a^*$

SORU 2

$L_2 = (a(ac^* + b^*a)^*a)^*$

==NFA Geçiş Çizengi==

==λ'sız==

	a	b
(A)	B	—
B	C,E	D
D	E	D
(CE)	—	—
(E)	—	—
∅	∅	∅

	a	b
(q0)	q1	q5
q1	q3	q2
q2	q4	q2
(q3)	q5	q5
(q4)		
q5	q5	q5

DFA geçiş çizelgesi

DFA : indirgeme

$q_0\, q_1\, q_2\, q_3 q_4 q_5$

$(q_0)\ (q_3 q_4)(q_1 q_2)(q_5)$
A   B   C   D

	a	b
A	C	D
B	D	D
C	B	C
D	D	D