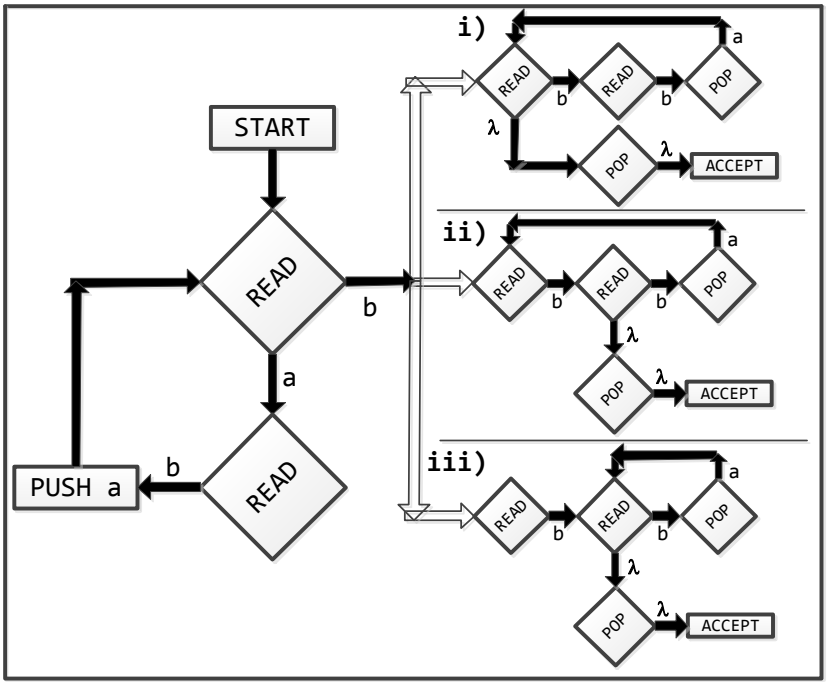
Karadeniz Teknik Üniversitesi
Bilgisayar Mühendisliği Bölümü
Öğr.Gör. Ömer ÇAKIR

BİL 348 Otomata Teorisi
Final Sınavı, 25.05.2011
Süre : 100 Dakika

CEVAPLAR

1.

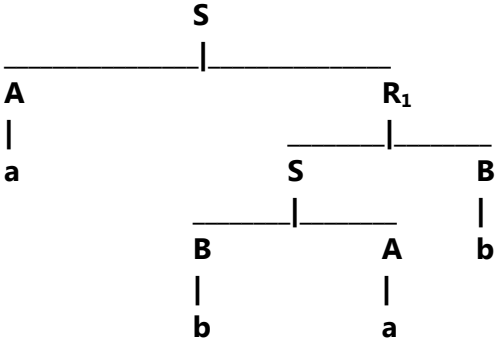


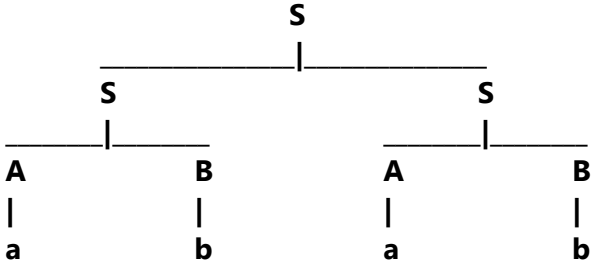
$(ab)^n b^{2n+1}$
$(ab)^n b^{2n+2}$
$(ab)^n b^{n+2}$

2.

S → SS | AR_1 | BR_2 | AB | BA | b
R_1 → SB
R_2 → SA
A → a
B → b

a	**A**	**S**	**R_2**	**S**
b	**S,B**	**S,R_2**	**S,R_1**	
a	**A**	**S**		
b	**S,B**			





3.

0 **S' → S $**
1 **S → (E)**
2 **S → num**
3 **E → S**
4 **E → E + S**
5 **E → E - S**

Durumlar										
1	**2** 1→S	**3** 1→(	**4** 1→num	**5** 3→E	**6** 3→S	**7** 5→)	**8** 5→+	**9** 5→-	**10** 8→S	**11** 9→S
S'→.S$	S'→S.$	S→(.E)	S→num.	S→(E.)	E→S.	S→(E).	E→E+.S	E→E-.S	E→E+S.	E→E-S.
S→.(E)		E→.S		E→E.+S			S→.(E)	S→.(E)		
S→.num		E→.E+S		E→E.-S			S→.num	S→.num		
		E→.E-S								
		S→.(E)								
		S→.num								

Durum Diyagramı (Tablo şeklinde)

	(	**)**	**+**	**-**	**num**	**S**	**E**
1	3				4	2	
2	accept						
3	3				4	6	5
4	reduce 2						
5		7	8	9			
6	reduce 3						
7	reduce 1						
8	3				4	10	
9	3				4	11	
10	reduce 4						
11	reduce 5						

Parsing Tablosu

	(	**)**	**+**	**-**	**num**	**$**	**S**	**E**
1	s3				s4		s2	
2						a		
3	s3				s4		s6	s5
4	r2							
5		s7	s8	s9				
6	r3							
7	r1							
8	s3				s4		s10	
9	s3				s4		s11	
10	r4							
11	r5							

(1 + (2 - 3)) $