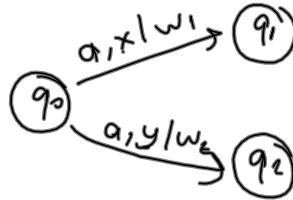
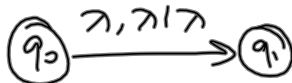
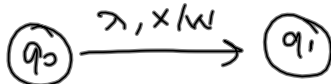
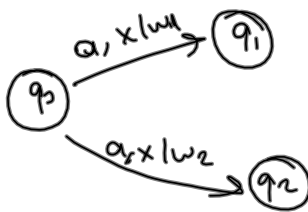
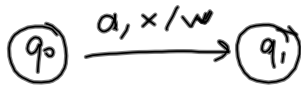
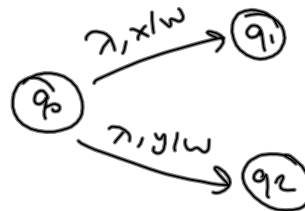


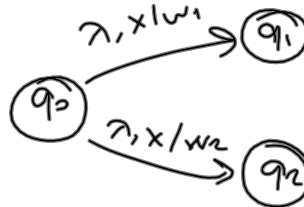
Deterministic PDA

DPDA için  
izin verilen  
geçişler

DPDA'da bu geçişlere  
izin verilmez.



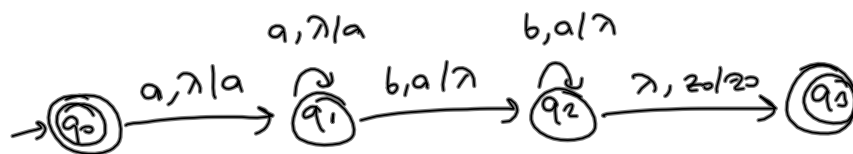
DPDA  
için  
izin verilen  
λ-geçişleri



DPDA'da  
bu λ-geçişleri  
geçerli değildir.

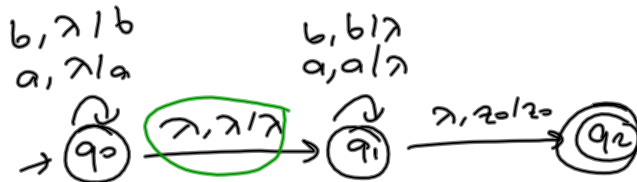
DPDA örneği

$$L(M) = \{a^n b^n, n \geq 0\}$$



NPDA örneği (Non deterministic PDA)

$$L(M) = \{ww^R, w \in (a+b)^*\}$$



↳ DPDA'da bu geçiş izin verilmez.

## TURING MAKİNASI

Tür-3  $\rightarrow$  DFA, NFATür-2  $\rightarrow$  PDATür-0  $\rightarrow$  TM

Serit 

a	b	a	a	b	B	B
---	---	---	---	---	---	---

$\uparrow$   $\rightarrow$  okuyucu / yazıcı kafk

$q_0$  kontrol ünitesi

 $TM = \langle Q, \Sigma, T, \delta, q_0, B, F \rangle$ T: Serit alfabesi  $T \supseteq \Sigma$ 

B: Blank simgesi

 $B \in T, B \notin \Sigma$  $\delta: Q \times T \rightarrow Q \times T \times \{L, R\}$ 

ÖRN:  $f(n) = 2n$  değeri hesaplayan bir TM tasarlayınız. ( $n \geq 1$ )

B	B	--	B	x	x	x	--	x	B	B
---	---	----	---	---	---	---	----	---	---	---

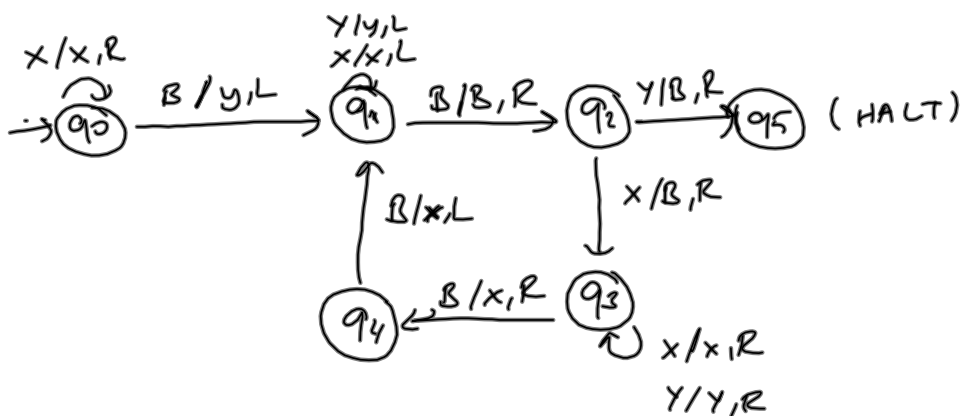
$n$  adet

<del>B</del>	<del>x</del>	<del>x</del>	B	<del>x</del>	<del>x</del>
--------------	--------------	--------------	---	--------------	--------------

B	B	---	B	x	x	x	---	x	B	B
---	---	-----	---	---	---	---	-----	---	---	---

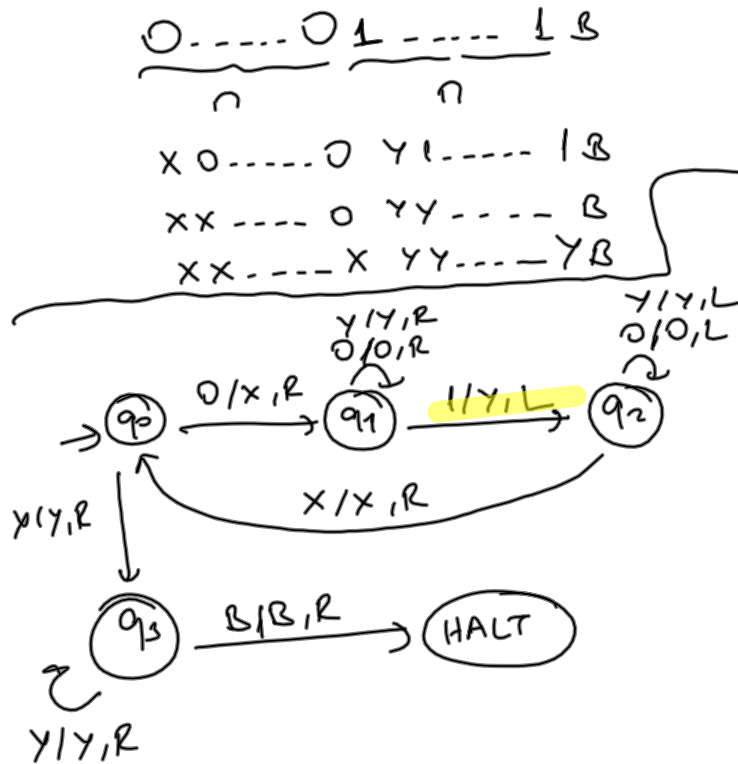
$2n$  adet

- \* Tüm x'ler soldan sağa okunur.
- \* x'lerden sonra gelen B işaretlerir, sola dönlür.
- \* Sağdan sola tüm x'ler ve işaretlenen (y'ler) okunur.
- \* B'den sağa doğru okunarak ilk x B olarak işaretlerir.
- \* x ve y'ler okunarak sağa doğru devam edilir.
- \* y'den sonra gelen iki B x yapılır.



B	B	x	x	x	B	B	B	B	B	B	B
---	---	---	---	---	---	---	---	---	---	---	---

ÖRN:  $L = \{ 0^n 1^n, n \geq 1 \}$  için TM tasarlayın.



ÖRN:  $L = \{ a^n b^{2n}, n \geq 0 \}$  dili için TM tasarlayınız.

