

$$L ::= Aa | Bb$$

$$A ::= Lb | aq$$

$$B ::= bBb | ba$$

Remove Indirect Rec

$$L \Rightarrow Aa | Bb$$

$$A \Rightarrow Aab | Bbb | aa$$

$$B \Rightarrow bBb | ba$$

Remove Left Rec

$$L \Rightarrow Aa | Bb$$

$$A \Rightarrow BbbA' | aaA'$$

$$A' \Rightarrow abA' | \epsilon$$

$$B \Rightarrow bBb | ba$$

Remove Left Fact.

$$L \Rightarrow Aa | Bb$$

$$A \Rightarrow BbbA' | aaA'$$

$$A' \Rightarrow abA' | \epsilon$$

$$B \Rightarrow bB'$$

$$B' \Rightarrow Bb | a$$

Parse Table

	a	b	\$
L	$L \Rightarrow Aa$	$L \Rightarrow Bb$	
A	$A \Rightarrow aaA'$	$A \Rightarrow BbbA'$	
A'	$A' \Rightarrow abA'$ $A' \Rightarrow \epsilon$		
B		$B \Rightarrow bB'$	
B'	$B' \Rightarrow a$	$B' \Rightarrow Bb$	

Remove  $\epsilon$ ?

$$L \Rightarrow Aa | Bb$$

$$A \Rightarrow BbbA' | aaA' | Bbb$$

$$A' \Rightarrow abA' | ab$$

$$B \Rightarrow bB'$$

$$B' \Rightarrow Bb | a$$

$$S \Rightarrow Ax | B$$

$$A \Rightarrow Sd$$

$$S \Rightarrow Ax | B$$

$$A \Rightarrow Ax | B$$

$$A \Rightarrow Ax | B$$

$$A \Rightarrow BA'$$

$$A' \Rightarrow \alpha A' | \epsilon$$

$$\text{First}(L) \Rightarrow \text{First}(A) \cup \text{First}(B) = \{a, b\}$$

$$\text{First}(A) \Rightarrow \text{First}(B) \cup \{a\} = \{a, b\}$$

$$\text{First}(A') \Rightarrow \{a, \epsilon\}$$

$$\text{First}(B) \Rightarrow \{b\}$$

$$\text{First}(B') = \{a, b\}$$

$$\text{Follow}(L) \Rightarrow \{\$ \}$$

$$\text{Follow}(A) \Rightarrow \{a\}$$

$$\text{Follow}(A') \Rightarrow \{a\}$$

$$\text{Follow}(B) \Rightarrow \{b\}$$

$$\text{Follow}(B') \Rightarrow \{b\}$$

$$\text{Follow}(L) \Rightarrow \{\$ \}$$

$$\text{Follow}(A) \Rightarrow \{a\}$$

$$\text{Follow}(A') \Rightarrow \{a\}$$

$$\text{Follow}(B) \Rightarrow \{b\}$$

$$\text{Follow}(B') \Rightarrow \{b\}$$

$$\text{First}(L) \Rightarrow \{a, b\}$$

$$\text{First}(A) \Rightarrow \{a, b\}$$

$$\text{First}(A') \Rightarrow \{a\}$$

$$\text{First}(B) \Rightarrow \{b\}$$

$$\text{First}(B') \Rightarrow \{a, b\}$$

$$L \Rightarrow Aa | Bb$$

$$A \Rightarrow aaA'$$

$$A'$$

$$B$$

$$B'$$