

	First ₂ ^(d) (.)				
(d)	S	X	a	b	c

	First ₂ ^(d) (.)				
(d)	<i>S</i>	<i>X</i>	<i>a</i>	<i>b</i>	<i>c</i>
(0)					

	First ₂ ^(d) (.)				
(d)	S	X	a	b	c
(0)			$\textcircled{a}$	$\textcircled{b}$	$\textcircled{c}$

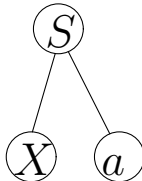
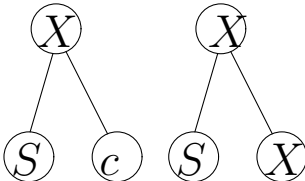
	First ₂ ^(d) (.)				
(d)	S	X	a	b	c
(0)			a	b	c

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)					

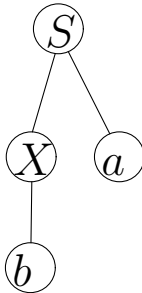
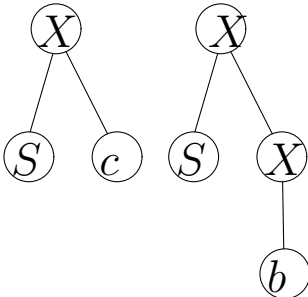
	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	S ϵ	X b			

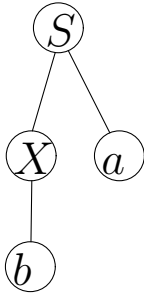
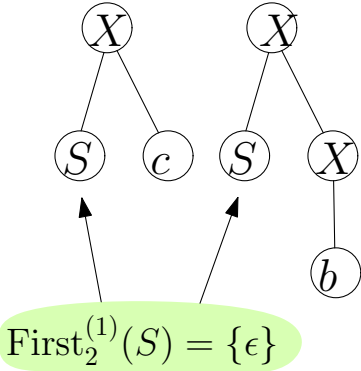
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			

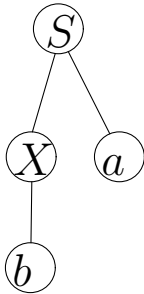
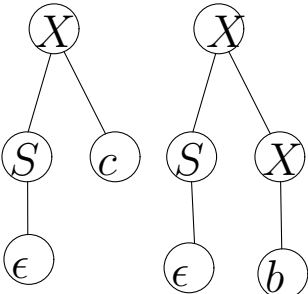
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)					

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)					

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	S X a X S c X S X $\text{First}_2^{(1)}(X) = \{b\}$				

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)					

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)					

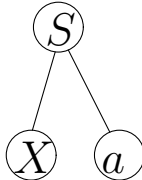
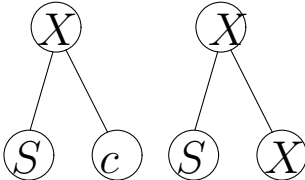
	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)					

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	S X a b ba	X S c ϵ c X S X ϵ b b			

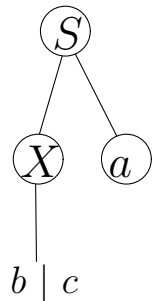
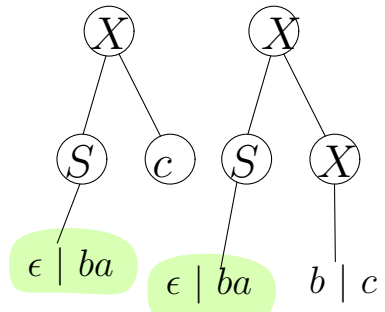
	First ₂ ^(d) (.)			
(d)	<i>S</i>	<i>X</i>	<i>a</i>	<i>b</i> <i>c</i>
(0)			<i>a</i>	<i>b</i> <i>c</i>
(1)	<i>ε</i>	<i>b</i>		
(2)	<i>ba</i>	<i>c</i> <i>b</i>		

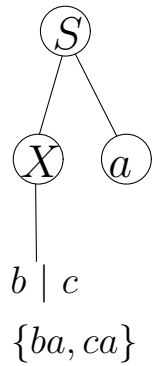
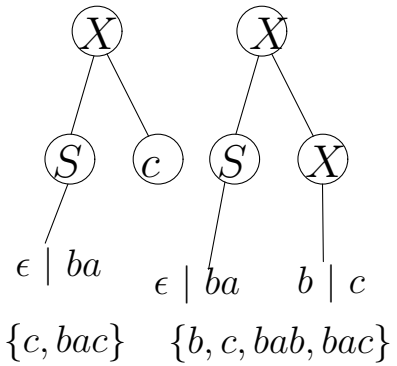
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			

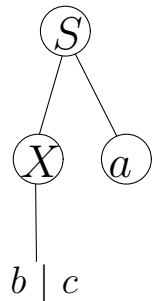
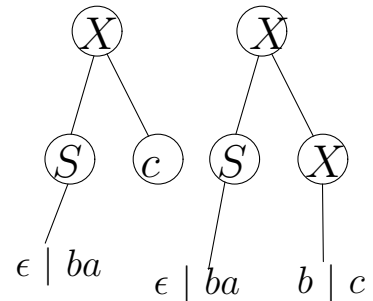
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)					

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)					

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	S X a $b \mid c$ $\text{First}_2^{(2)}(X) = \{b, c\}$ X S c X S X $b \mid c$				

	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	 $\text{First}_2^{(2)}(S) = \{\epsilon, ba\}$				

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)					

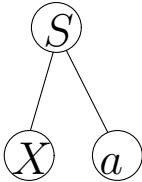
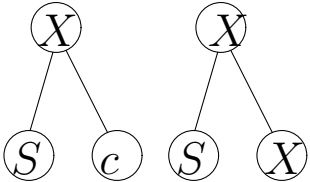
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	 {ba, ca}	 {b, c, bab, bac}			

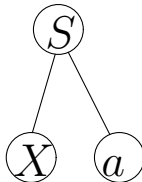
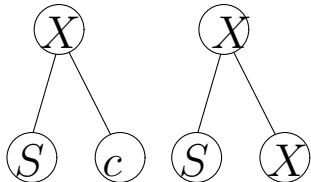
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	S X a b c {ba, ca}	X S c S ϵ ba {b, c, ba, ba} X S X ϵ ba b c			

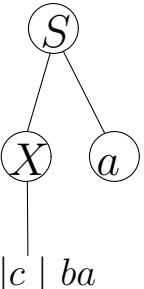
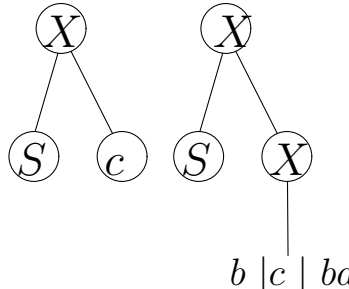
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ba ca	b c ba ba			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)			

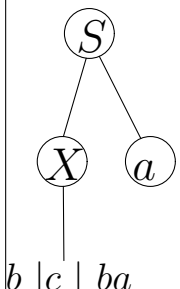
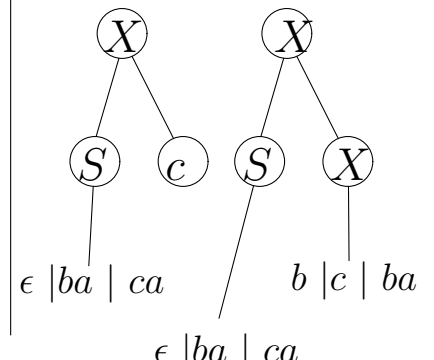
	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	$a \qquad b \qquad c$
(0)			$a \qquad b \qquad c$
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)					
First ₂ ⁽³⁾ (X) = {b, c, ba}					

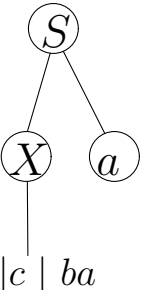
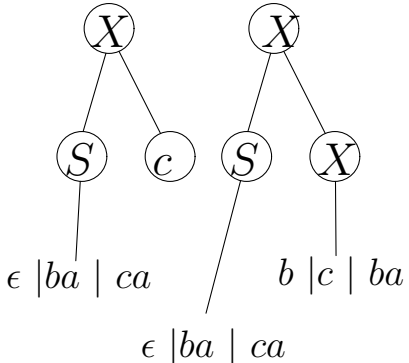
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)					
First ₂ ⁽³⁾ (X) = {b, c, ba}					

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	S X a b c ba	X S c X S X b c ba			

$$\text{First}_2^{(3)}(S) = \{\epsilon, ba, ca\}$$

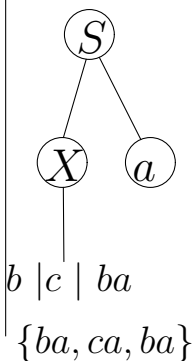
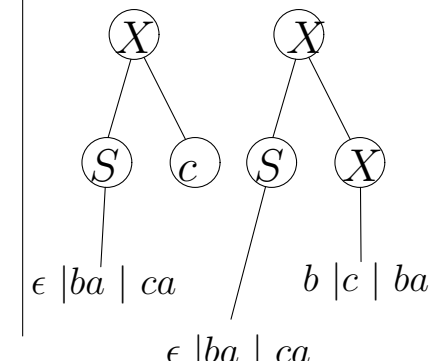
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)					

$$\text{First}_2^{(3)}(S) = \{\epsilon, ba, ca\}$$

	First ₂ ^(d) (.)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)					

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	S X a b c ba {ba, ca, baa}	X S c X S X ϵ ba ca b c ba ϵ ba ca {c, bac, cac} {b, c, ba, bab, bac, baba, cab, cac, caba}			

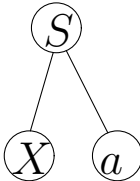
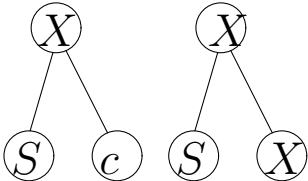
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	S X a b c ba {ba, ca, baa} X S c S X ϵ ba ca b c ba ϵ ba ca {b, c, ba, ca, bab, bac, baba, cab, cac, caba}				

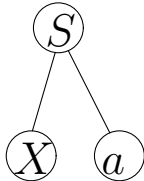
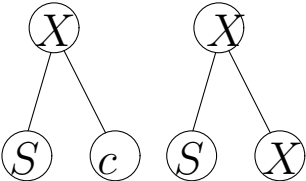
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	 $\{ba, ca, ba\}$	 $\{b, c, ba, ca, ba, ba, ba, ca, ca, ca\}$			

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)	$ba\ ca\ ba$	$b\ c\ ba\ ca\ ba\ ca\ ca\ ca$	

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)	—	ca	

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)	---	ca	
(5)			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)					

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)					

$$\text{First}_2^{(4)}(X) = \{b, c, ba, ca\}$$

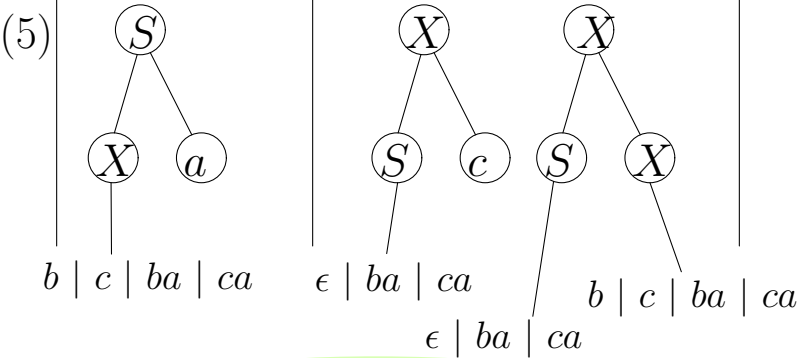
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	S X a b c ba ca	X S c X S X b c ba ca			

$$\text{First}_2^{(4)}(X) = \{b, c, ba, ca\}$$

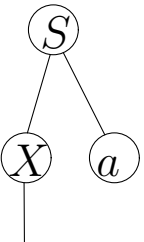
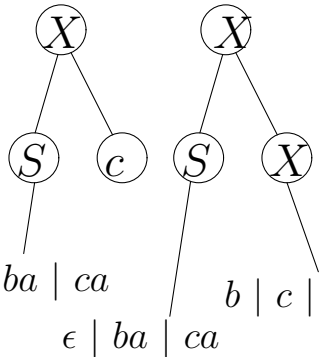
	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	S X a b c ba ca	X S c X S X b c ba ca			

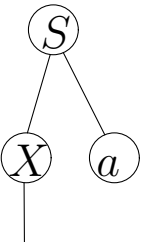
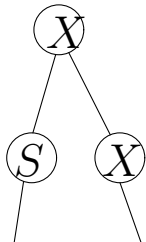
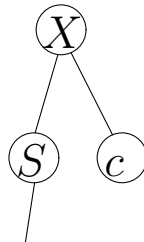
$$\text{First}_2^{(4)}(S) = \{\epsilon, ba, ca\}$$

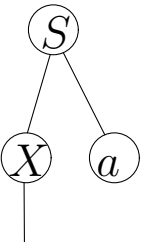
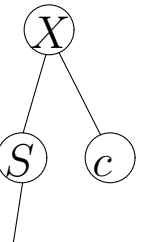
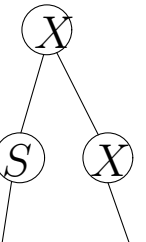
	$\text{First}_2^{(d)}(\cdot)$				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			

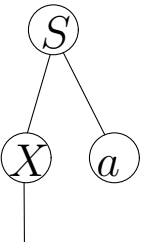
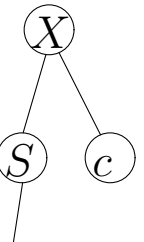
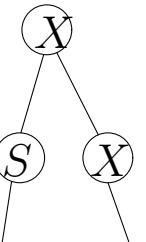


$$\text{First}_2^{(4)}(S) = \{\epsilon, ba, ca\}$$

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	 $b \mid c \mid ba \mid ca$	 $\epsilon \mid ba \mid ca$ $\epsilon \mid ba \mid ca$ $b \mid c \mid ba \mid ca$			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	 b c ba ca {ba, ca, baa, caa}	 ϵ ba ca {c, bac, cac} b c ba ca {b, c, ba, ca, bab, bac, baba, baca, cab, cac, caba, caca}			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	 b c ba ca {ba, ca, baa, caa}	  ϵ ba ca ϵ ba ca b c ba ca {b, c, ba, ca, bab, bac, baba, baca, cab, cac, caba, caca}			

	First ₂ ^(d) (·)				
(d)	S	X	a	b	c
(0)			a	b	c
(1)	ϵ	b			
(2)	ba	c			
(3)	ca	ba			
(4)	—	ca			
(5)	 b c ba ca {ba, ca, ba, ca}	  ϵ ba ca ϵ ba ca b c ba ca {b, c, ba, ca, ba, ba, ba, ba, ca, ca, ca, ca}			

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)	---	ca	
(5)	$ba \mid ca \mid ba \mid ca$	$b \mid c \mid ba \mid ca$	

	$\text{First}_2^{(d)}(\cdot)$		
(d)	S	X	a b c
(0)			a b c
(1)	ϵ	b	
(2)	ba	c	
(3)	ca	ba	
(4)	—	ca	
(5)	—	—	

