

# LL1 Example 2

# Use the Following Grammar and LL(1) Parse Table to Parse VAR AND VAR

S

1. S -> B		eof	OR	AND	VAR
2. B -> B1 B2	S				1
3. B2 -> OR B1 B2	B				2
4. B2 -> $\epsilon$	B1				5
5. B1 -> B3 B4	B2	4	3		
6. B4 -> AND B3 B4	B3				8
7. B4 -> $\epsilon$	B4	7	7	6	
8. B3 -> VAR					

# Use the Following Grammar and LL(1) Parse Table to Parse VAR AND VAR

1.  $S \rightarrow B$
2.  $B \rightarrow B1 B2$
3.  $B2 \rightarrow OR B1 B2$
4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

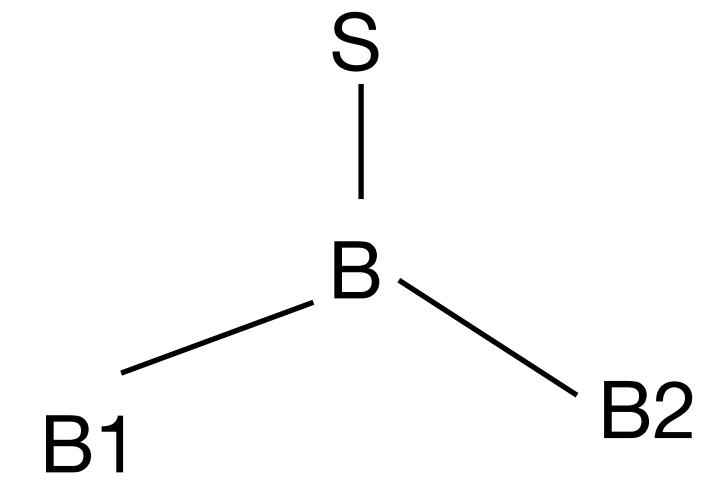
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	

S  
|  
B

# Use the Following Grammar and LL(1) Parse Table to Parse VAR AND VAR

1.  $S \rightarrow B$
2.  $B \rightarrow B1 B2$
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4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

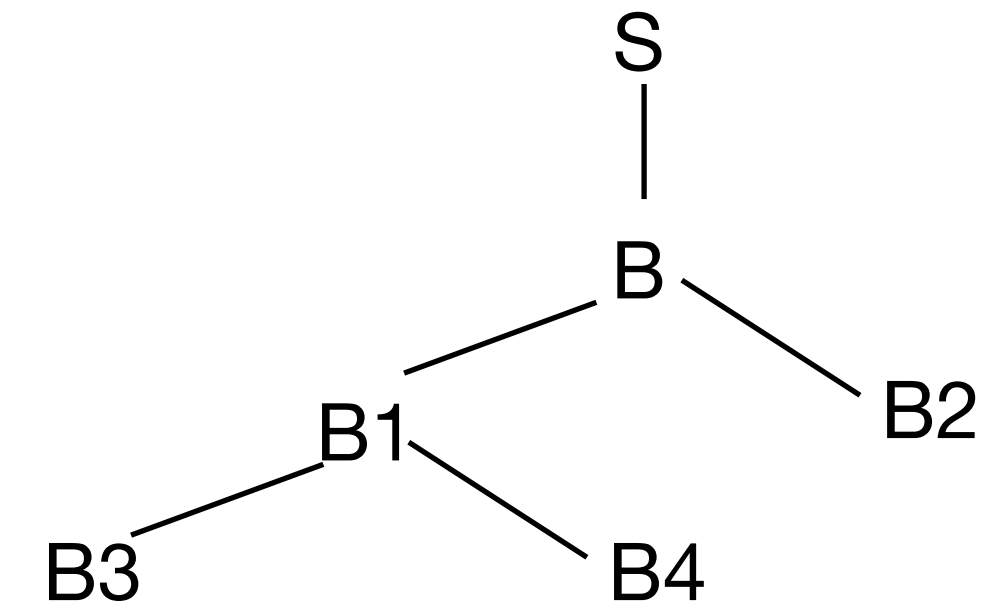
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

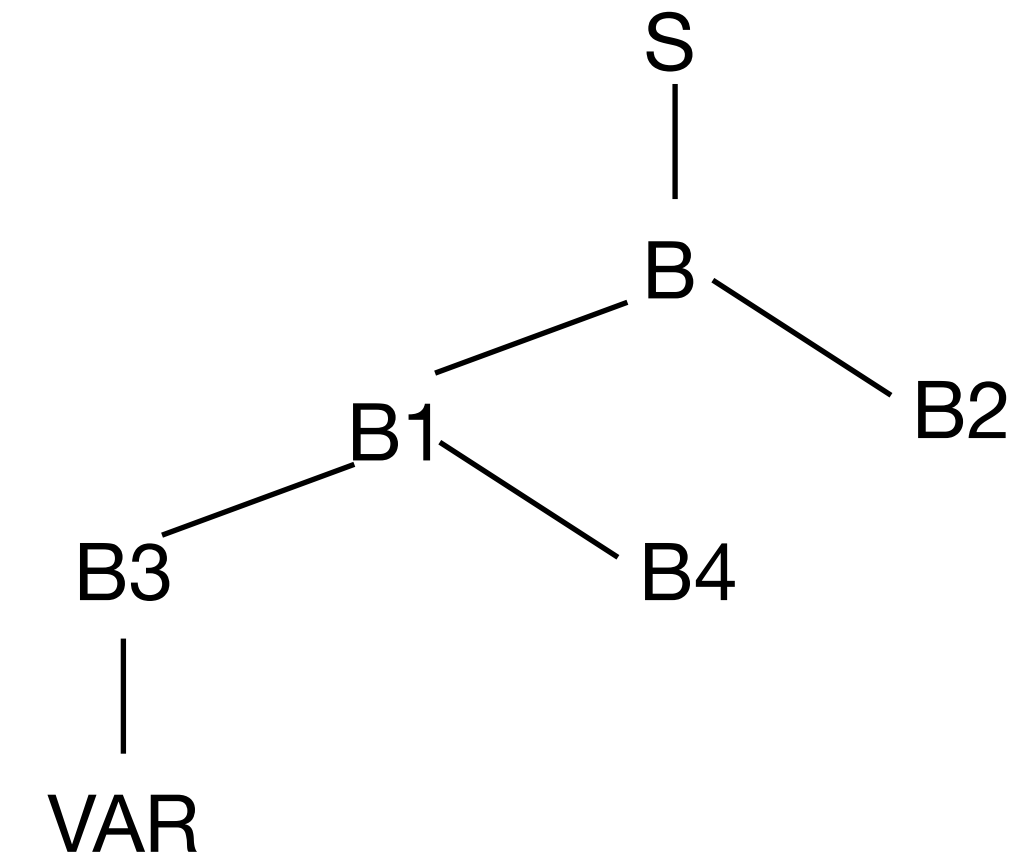
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

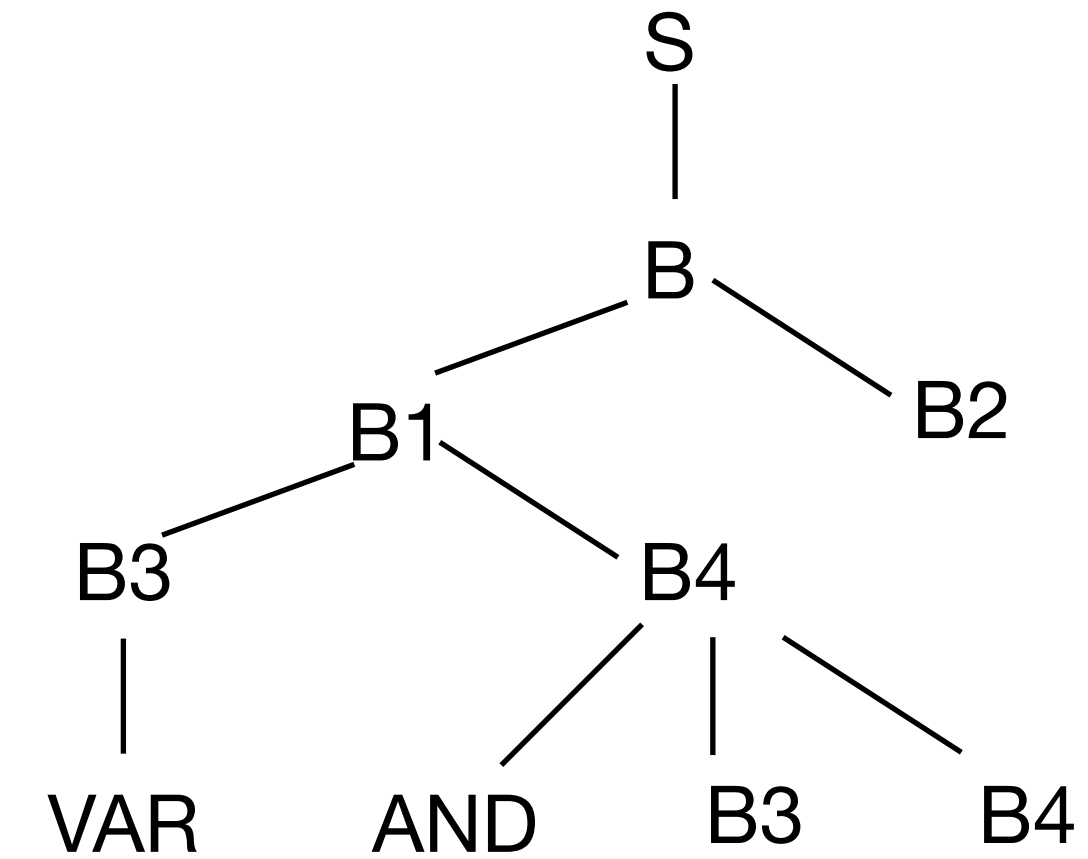
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

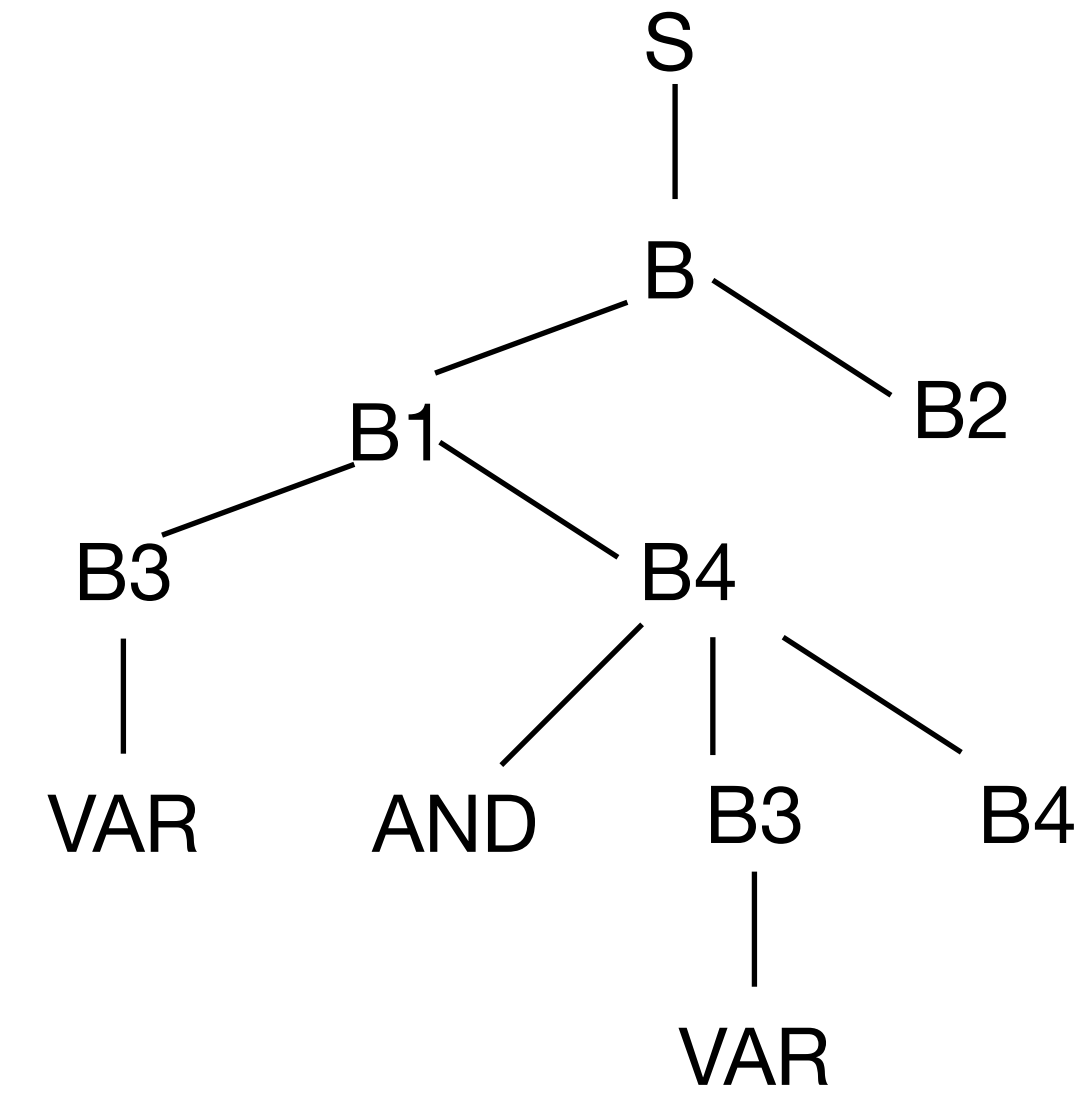
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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2.  $B \rightarrow B1 B2$
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4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	

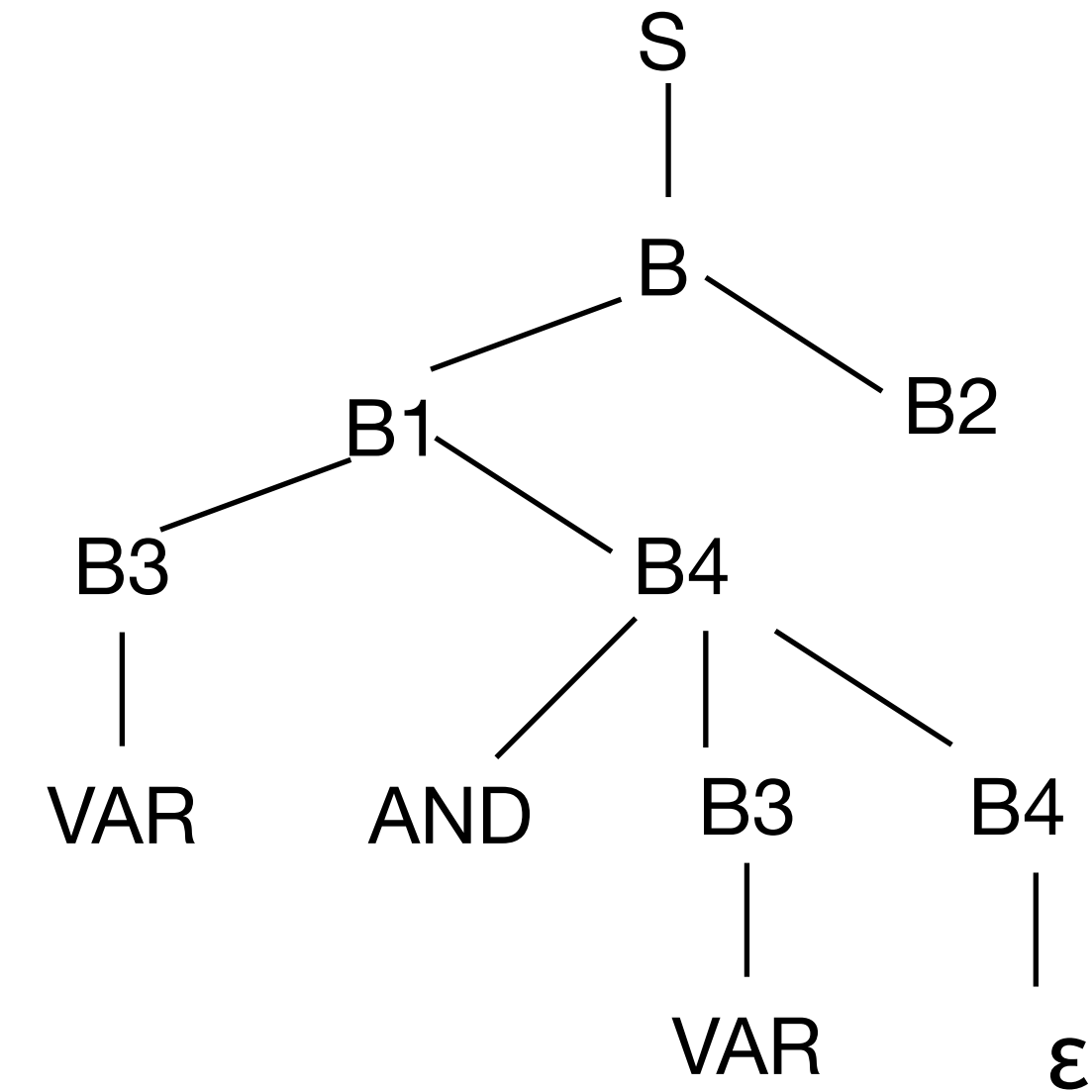




# Use the Following Grammar and LL(1) Parse Table to Parse VAR AND VAR

1.  $S \rightarrow B$
2.  $B \rightarrow B_1 B_2$
3.  $B_2 \rightarrow \text{OR } B_1 B_2$
4.  $B_2 \rightarrow \epsilon$
5.  $B_1 \rightarrow B_3 B_4$
6.  $B_4 \rightarrow \text{AND } B_3 B_4$
7.  $B_4 \rightarrow \epsilon$
8.  $B_3 \rightarrow \text{VAR}$

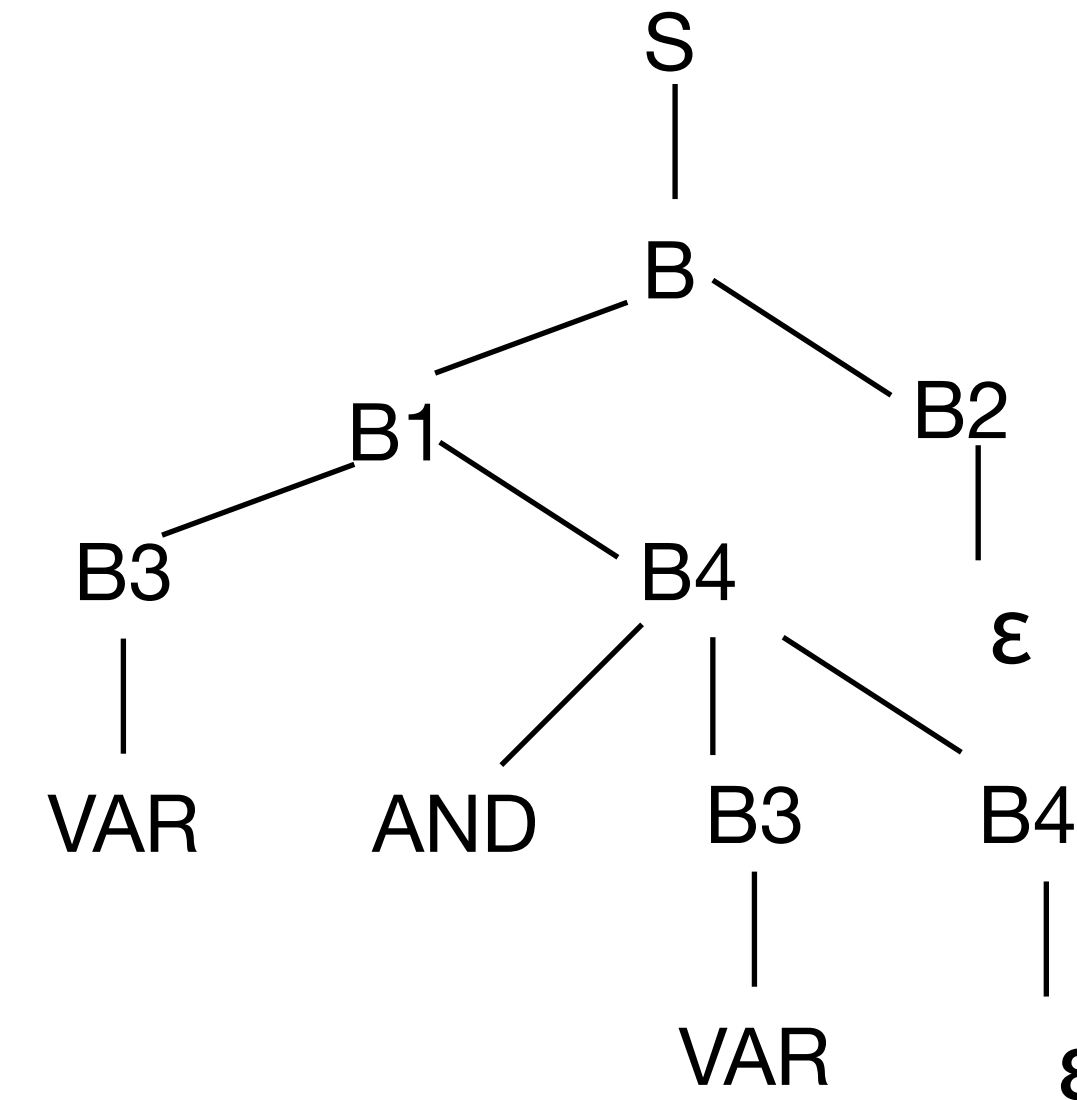
	eof	OR	AND	VAR
S				1
B				2
B <sub>1</sub>				5
B <sub>2</sub>	4	3		
B <sub>3</sub>				8
B <sub>4</sub>	7	7	6	



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1.  $S \rightarrow B$
2.  $B \rightarrow B1 B2$
3.  $B2 \rightarrow OR B1 B2$
4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

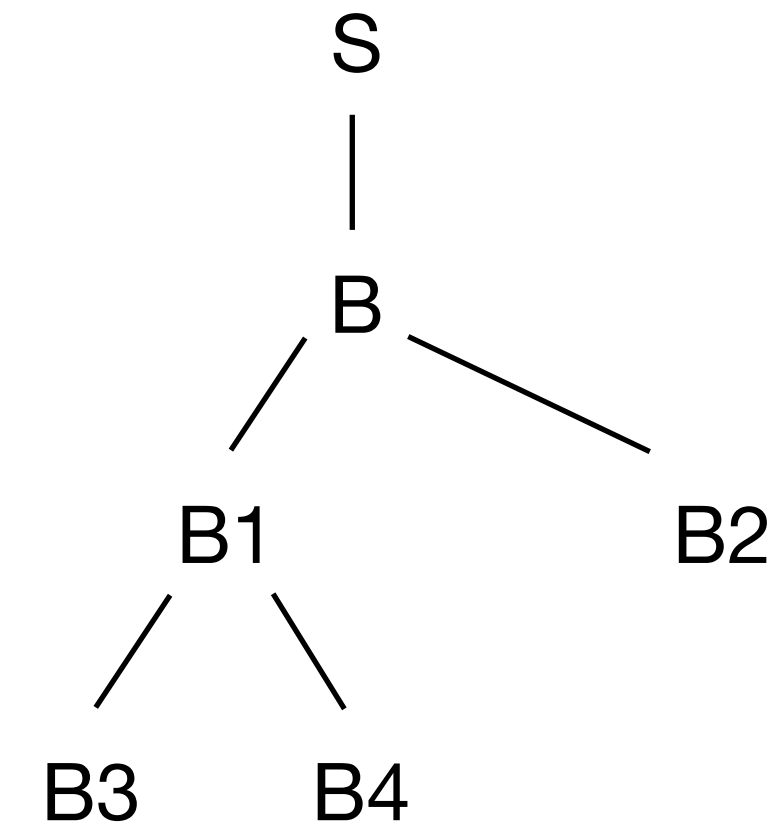
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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2.  $B \rightarrow B1 B2$
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4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

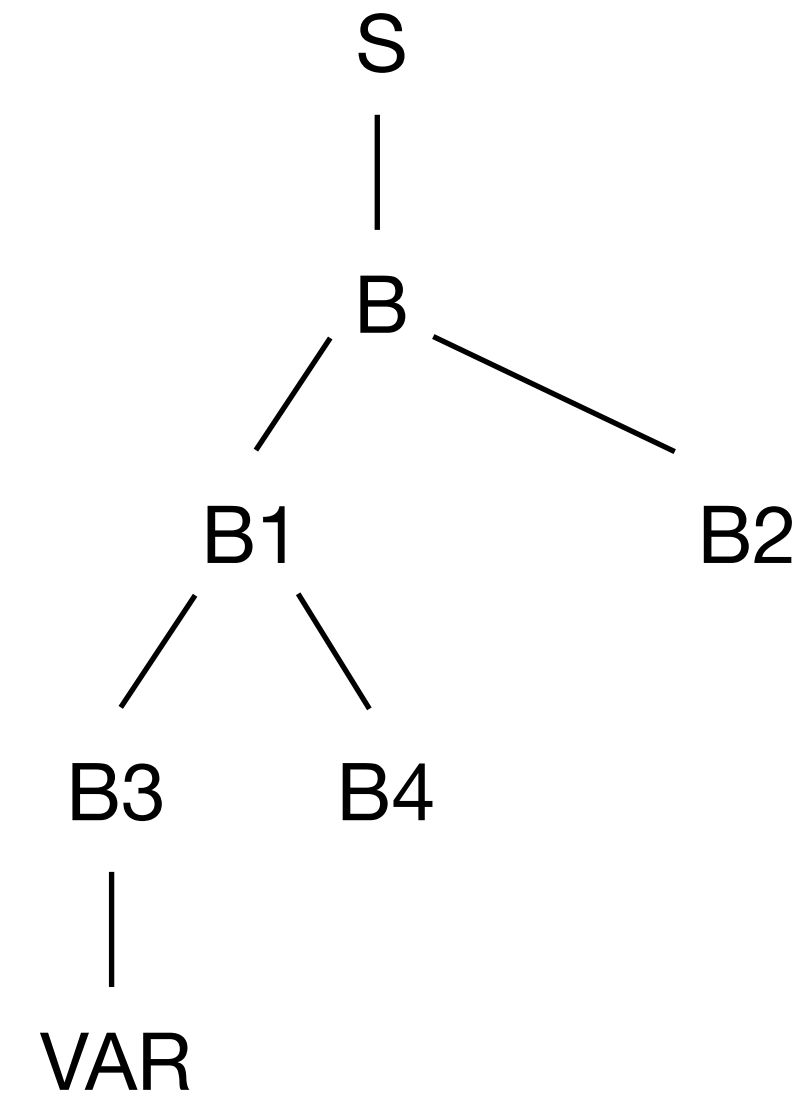
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

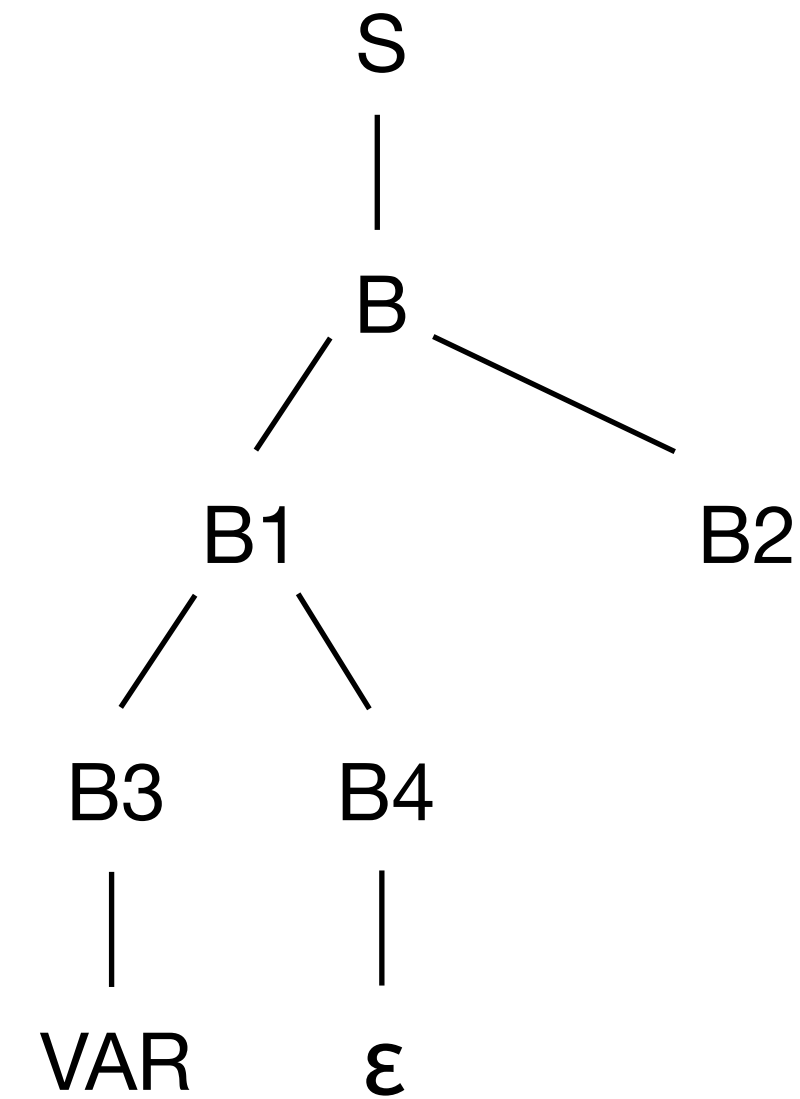
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

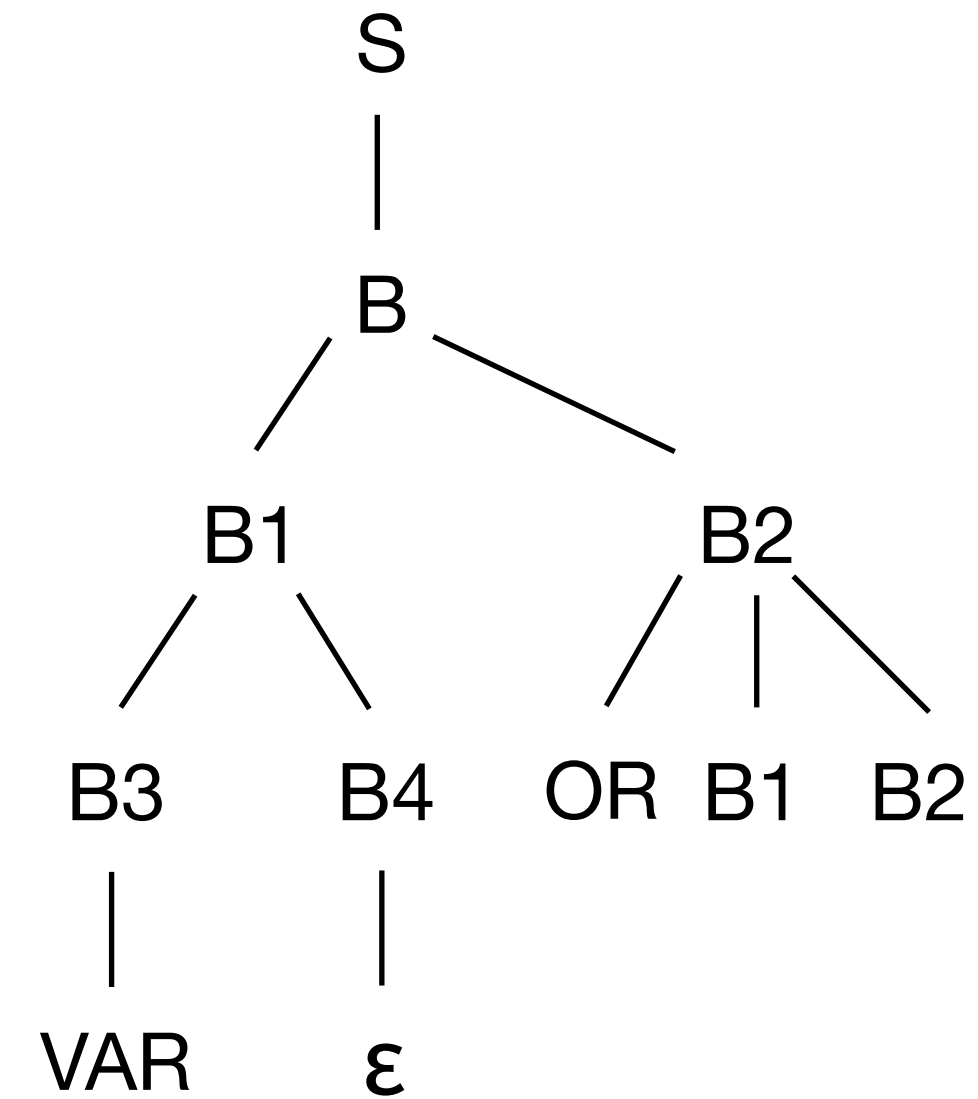
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
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5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

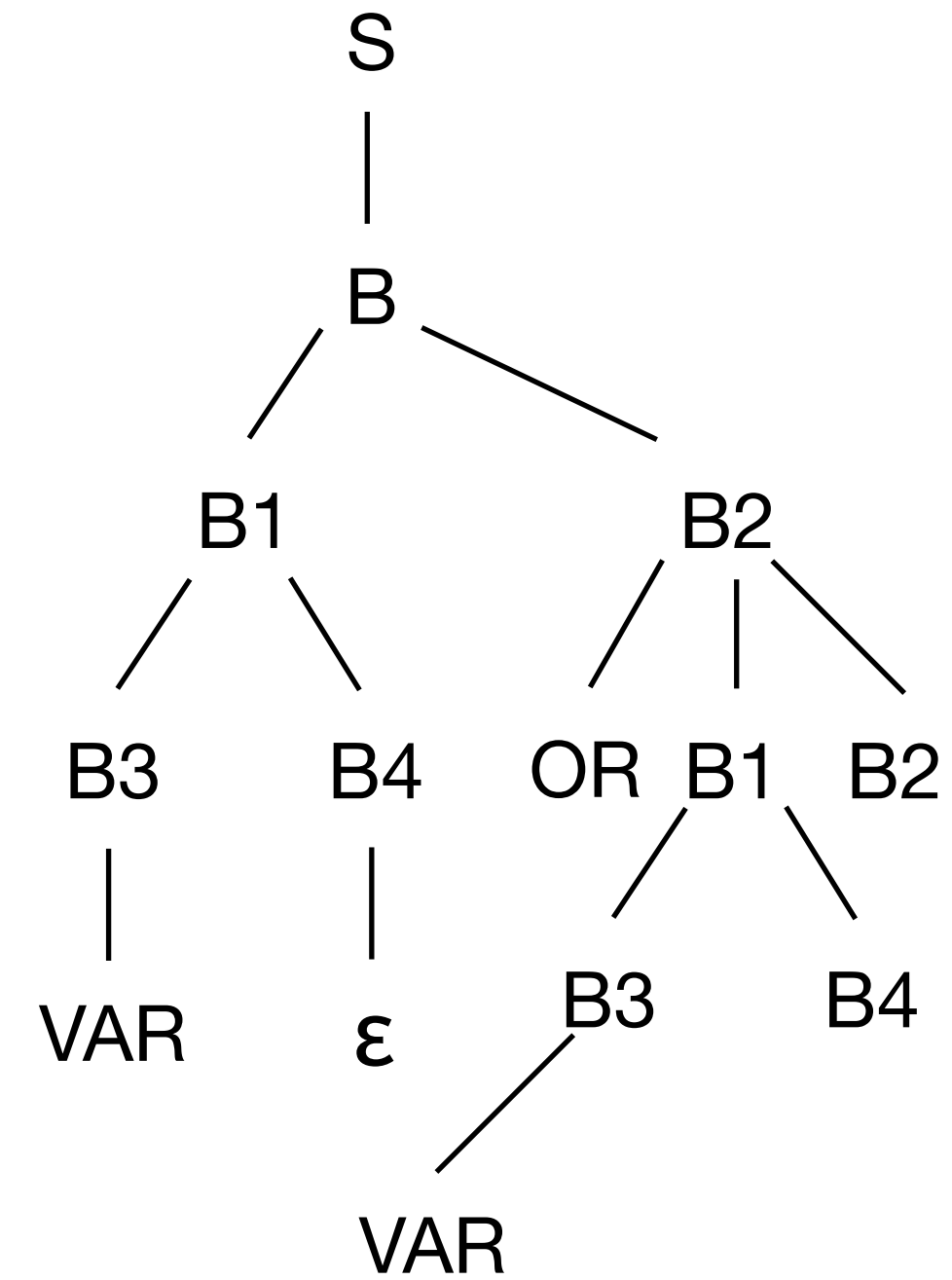
	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
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	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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1.  $S \rightarrow B$

2.  $B \rightarrow B1 B2$

3.  $B2 \rightarrow OR B1 B2$

4.  $B2 \rightarrow \epsilon$

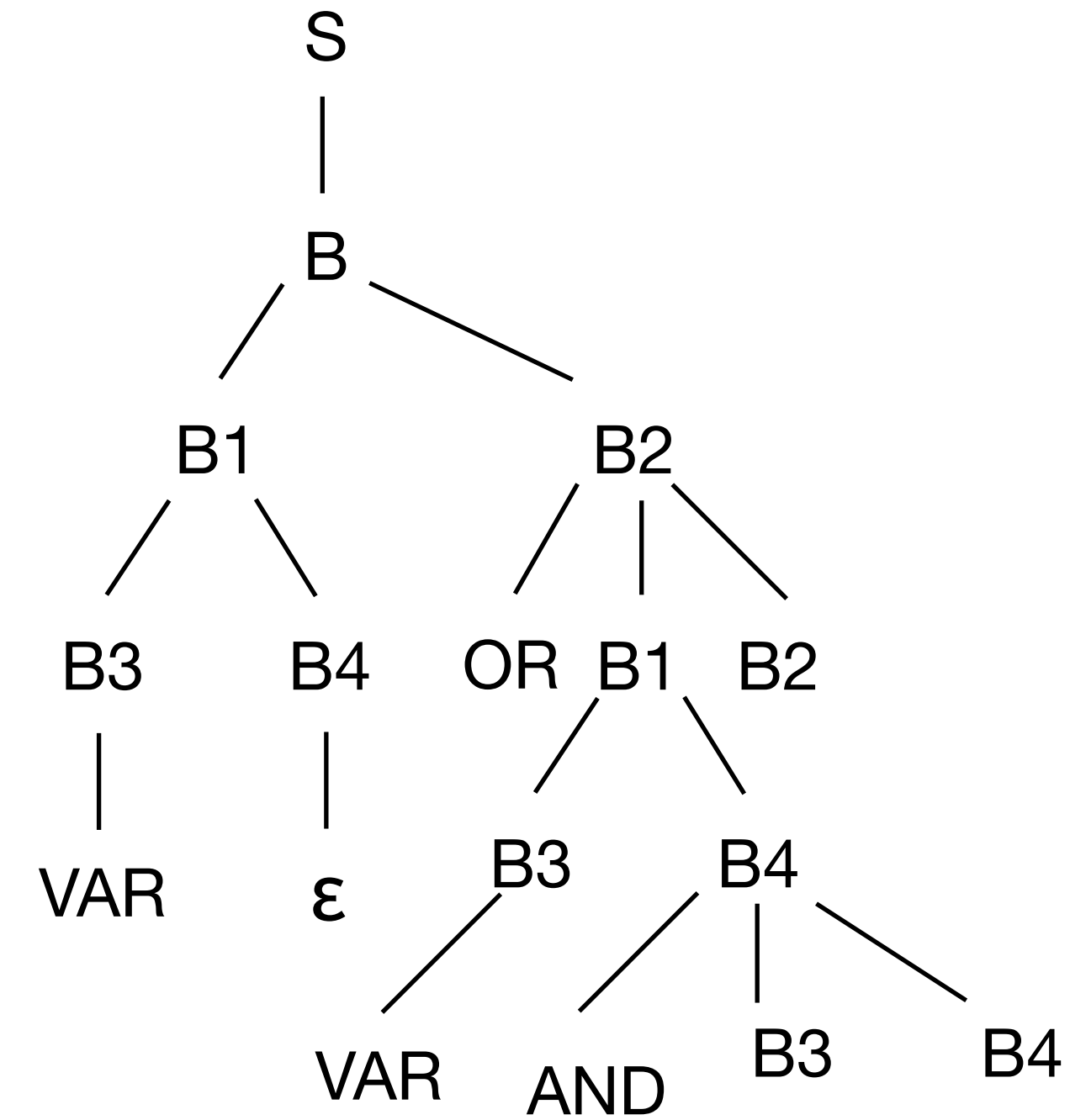
5.  $B1 \rightarrow B3 B4$

6.  $B4 \rightarrow AND B3 B4$

7.  $B4 \rightarrow \epsilon$

8.  $B3 \rightarrow VAR$

	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	





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1.  $S \rightarrow B$

2.  $B \rightarrow B1 B2$

3.  $B2 \rightarrow OR B1 B2$

4.  $B2 \rightarrow \epsilon$

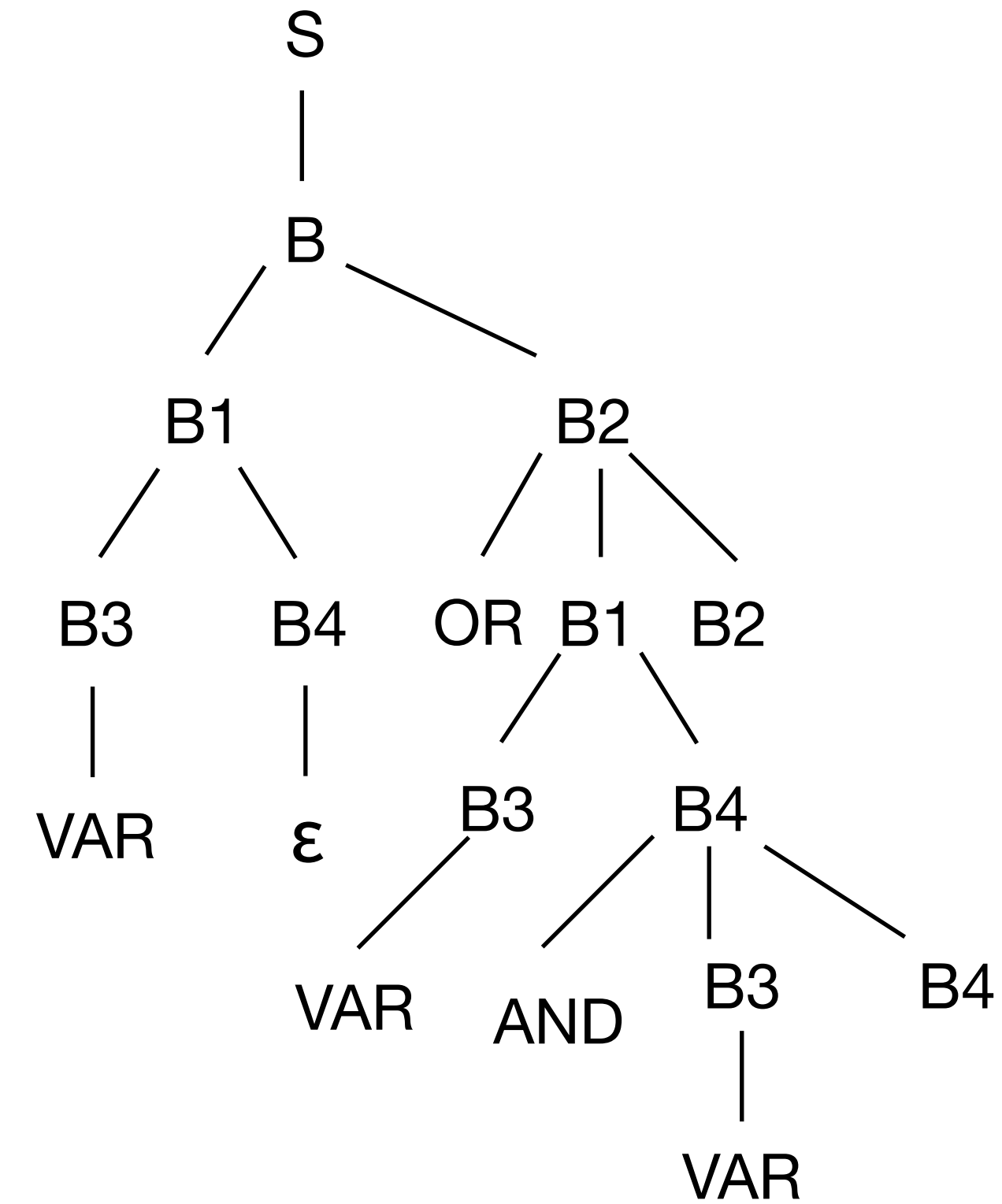
5.  $B1 \rightarrow B3 B4$

6.  $B4 \rightarrow AND B3 B4$

7.  $B4 \rightarrow \epsilon$

8.  $B3 \rightarrow VAR$

	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



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1.  $S \rightarrow B$

2.  $B \rightarrow B1 B2$

3.  $B2 \rightarrow OR B1 B2$

4.  $B2 \rightarrow \epsilon$

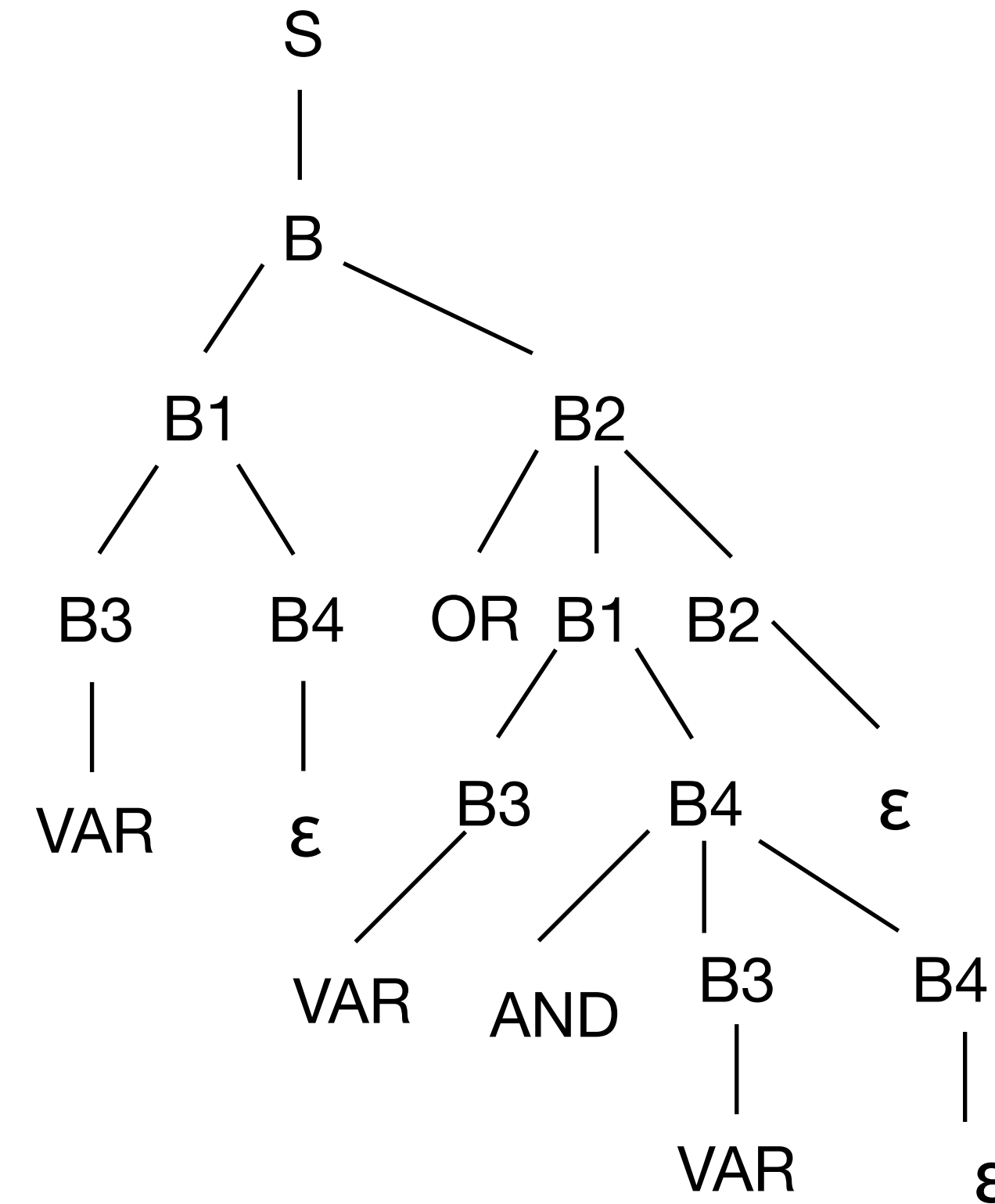
5.  $B1 \rightarrow B3 B4$

6.  $B4 \rightarrow AND B3 B4$

7.  $B4 \rightarrow \epsilon$

8.  $B3 \rightarrow VAR$

	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	



# LL(1) Parsing Algorithm (see page 112)

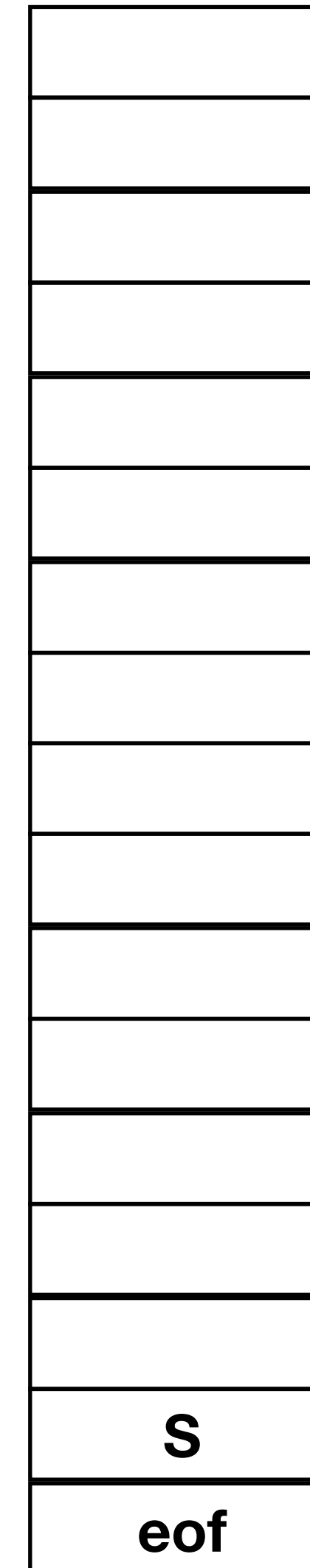
## VAR OR VAR

1.  $S \rightarrow B$
2.  $B \rightarrow B1 B2$
3.  $B2 \rightarrow OR B1 B2$
4.  $B2 \rightarrow \epsilon$
5.  $B1 \rightarrow B3 B4$
6.  $B4 \rightarrow AND B3 B4$
7.  $B4 \rightarrow \epsilon$
8.  $B3 \rightarrow VAR$

	eof	OR	AND	VAR
S				1
B				2
B1				5
B2	4	3		
B3				8
B4	7	7	6	

(Next Token) Word  
(Top of the Stack) Focus

<b>VAR</b>
<b>S</b>



**S**  
**eof**

































