

Beispiel zum McNaughton-Yamada Algorithmus (Vorlesung vom 16.04.2014)

- $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5

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$$\bullet (a \mid \varepsilon) (b (a \mid b)^*)$$

1 2 3 4


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1 2 3 4 5

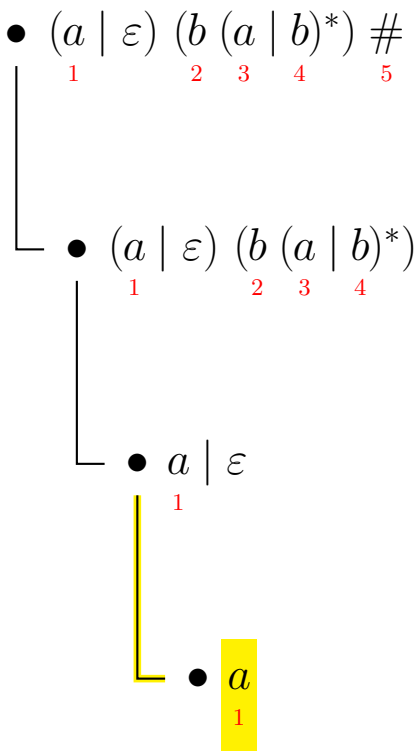

$$\bullet (a \mid \varepsilon) (b (a \mid b)^*)$$

1 2 3 4

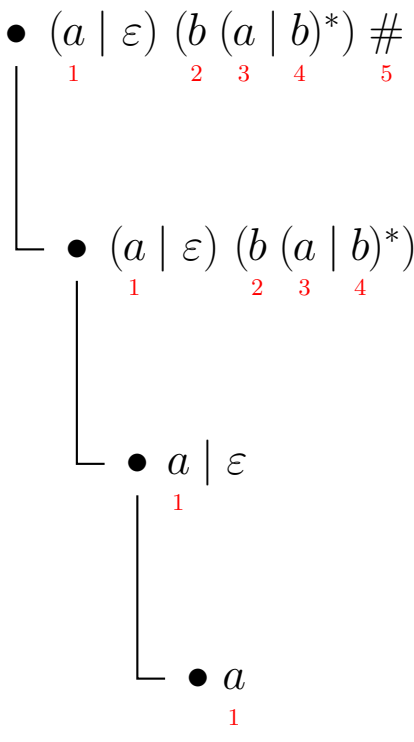

$$\bullet a \mid \varepsilon$$

1

Beispiel zum McNaughton-Yamada Algorithmus (Vorlesung vom 16.04.2014)



Beispiel zum McNaughton-Yamada Algorithmus (Vorlesung vom 16.04.2014)



nullable : false *firstpos* : {1} *lastpos* : {1}
followpos : {}

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1 2 3 4 5

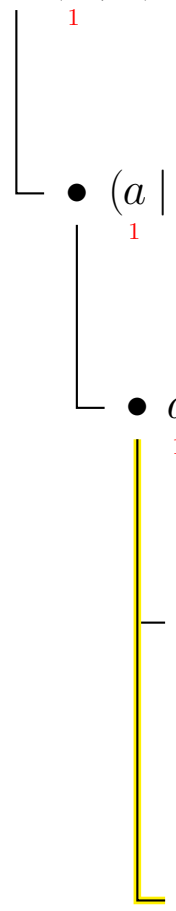
• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

• a
1

nullable : false firstpos : {1} lastpos : {1}
followpos : {}

• ε



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• a
1

nullable : false firstpos : {1} lastpos : {1}
followpos : {}

• ε

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1 2 3 4

• $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

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• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

• b
2

Beispiel zum McNaughton-Yamada Algorithmus (Vorlesung vom 16.04.2014)

• $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5

• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

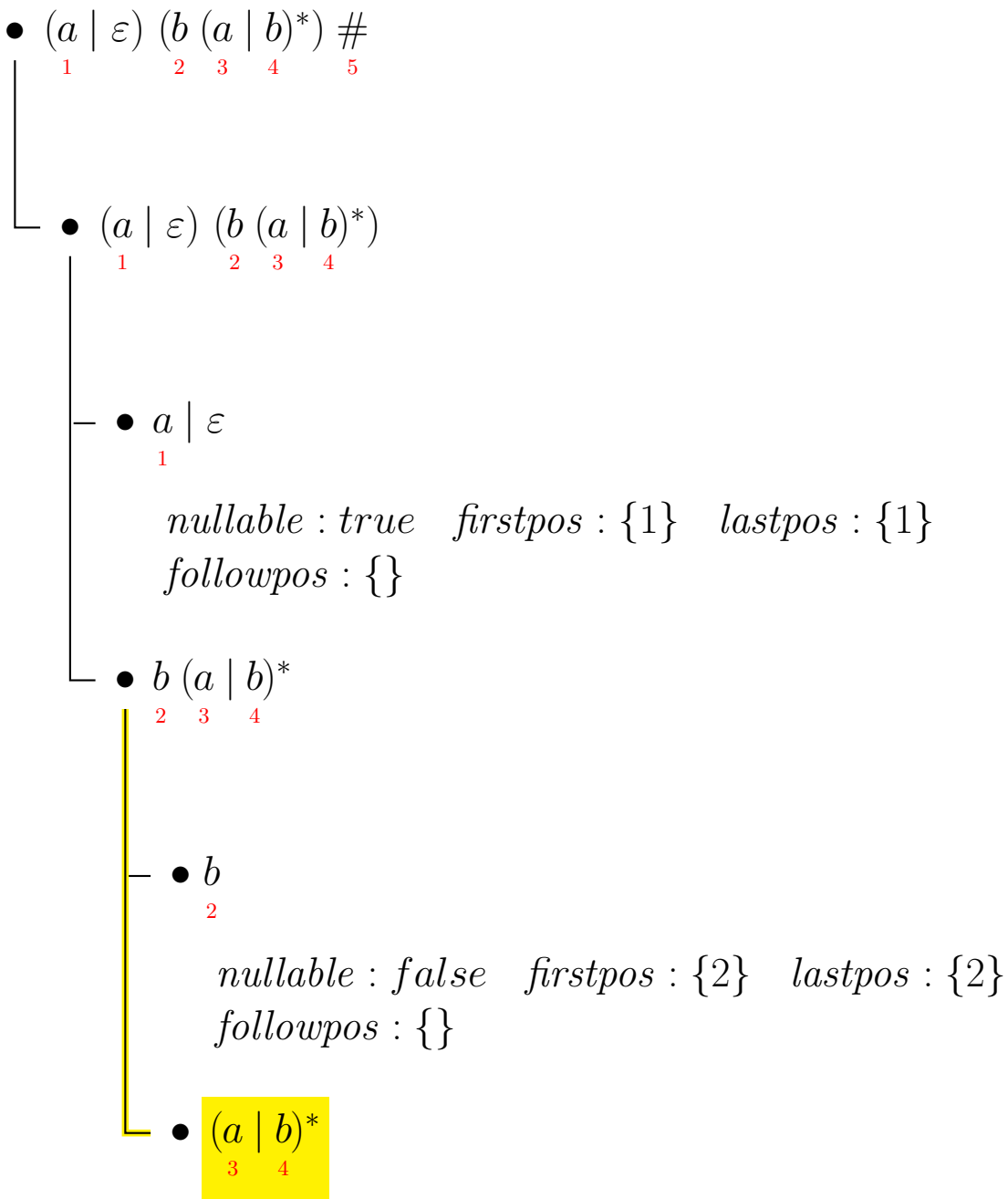
nullable : true firstpos : {1} lastpos : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

• b
2

nullable : false firstpos : {2} lastpos : {2}
followpos : {}

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• $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5

• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

• b
2

nullable : false *firstpos* : {2} *lastpos* : {2}
followpos : {}

• $(a \mid b)^*$
3 4

• $a \mid b$
3 4

• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

• b
2

nullable : false *firstpos* : {2} *lastpos* : {2}
followpos : {}

• $(a \mid b)^*$
3 4

• $a \mid b$
3 4

• a
3

• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

• $b (a \mid b)^*$
2 3 4

• b
2

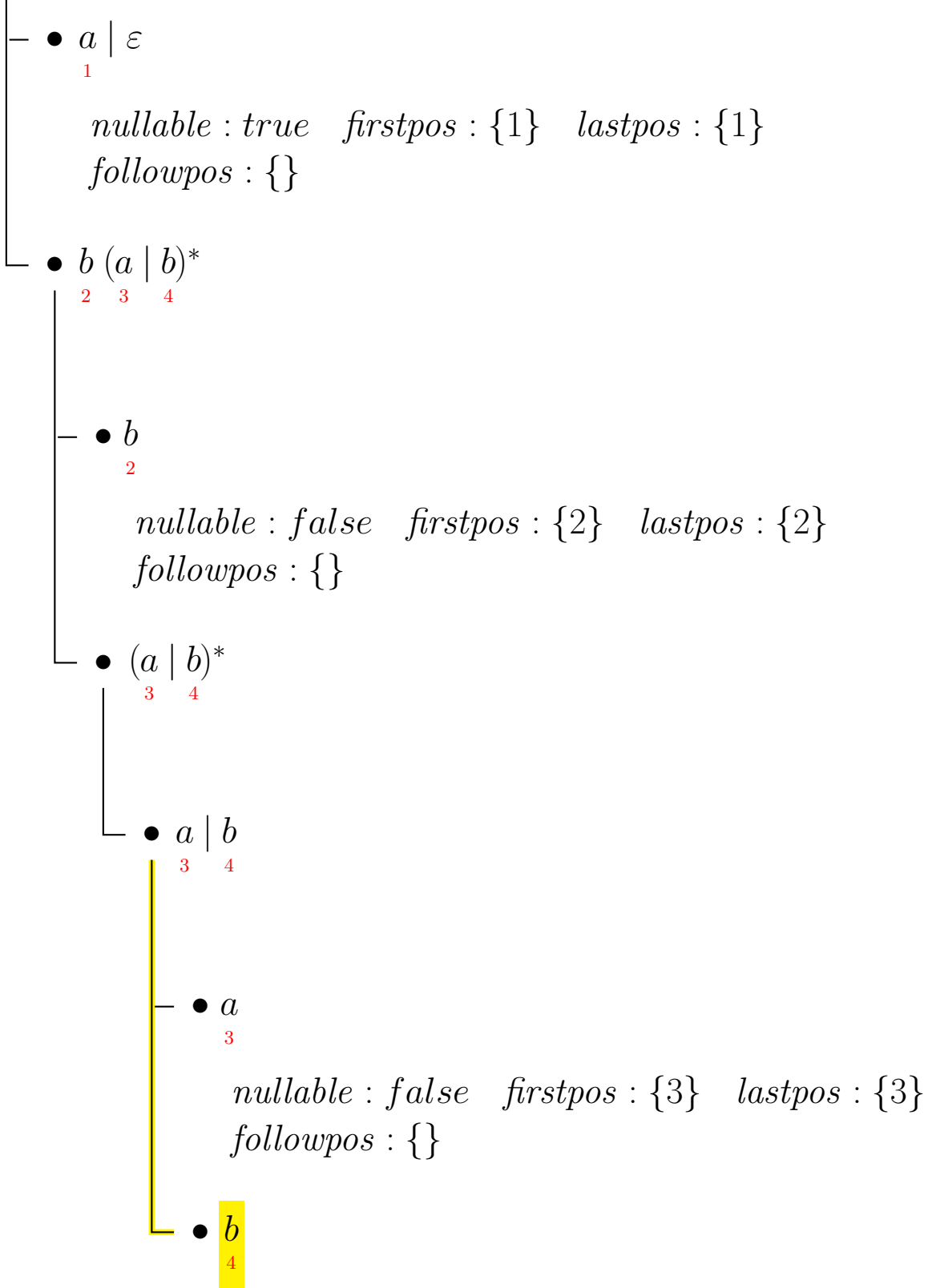
nullable : false *firstpos* : {2} *lastpos* : {2}
followpos : {}

• $(a \mid b)^*$
3 4

• $a \mid b$
3 4

• a
3

nullable : false *firstpos* : {3} *lastpos* : {3}
followpos : {}



• $a \mid \varepsilon$
1

$nullable : true$ $firstpos : \{1\}$ $lastpos : \{1\}$
 $followpos : \{\}$

• $b (a \mid b)^*$
2 3 4

• b
2

$nullable : false$ $firstpos : \{2\}$ $lastpos : \{2\}$
 $followpos : \{\}$

• $(a \mid b)^*$
3 4

• $a \mid b$
3 4

• a
3

$nullable : false$ $firstpos : \{3\}$ $lastpos : \{3\}$
 $followpos : \{\}$

• b
4

$nullable : false$ $firstpos : \{4\}$ $lastpos : \{4\}$
 $followpos : \{\}$

• $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5

• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

• $a \mid \varepsilon$
1

$nullable : true \quad firstpos : \{1\} \quad lastpos : \{1\}$
 $followpos : \{\}$

• $b (a \mid b)^*$
2 3 4

• b
2

$nullable : false \quad firstpos : \{2\} \quad lastpos : \{2\}$
 $followpos : \{\}$

• $(a \mid b)^*$
3 4

• $a \mid b$
3 4

$nullable : false \quad firstpos : \{3,4\} \quad lastpos : \{3,4\}$
 $followpos : \{\}$

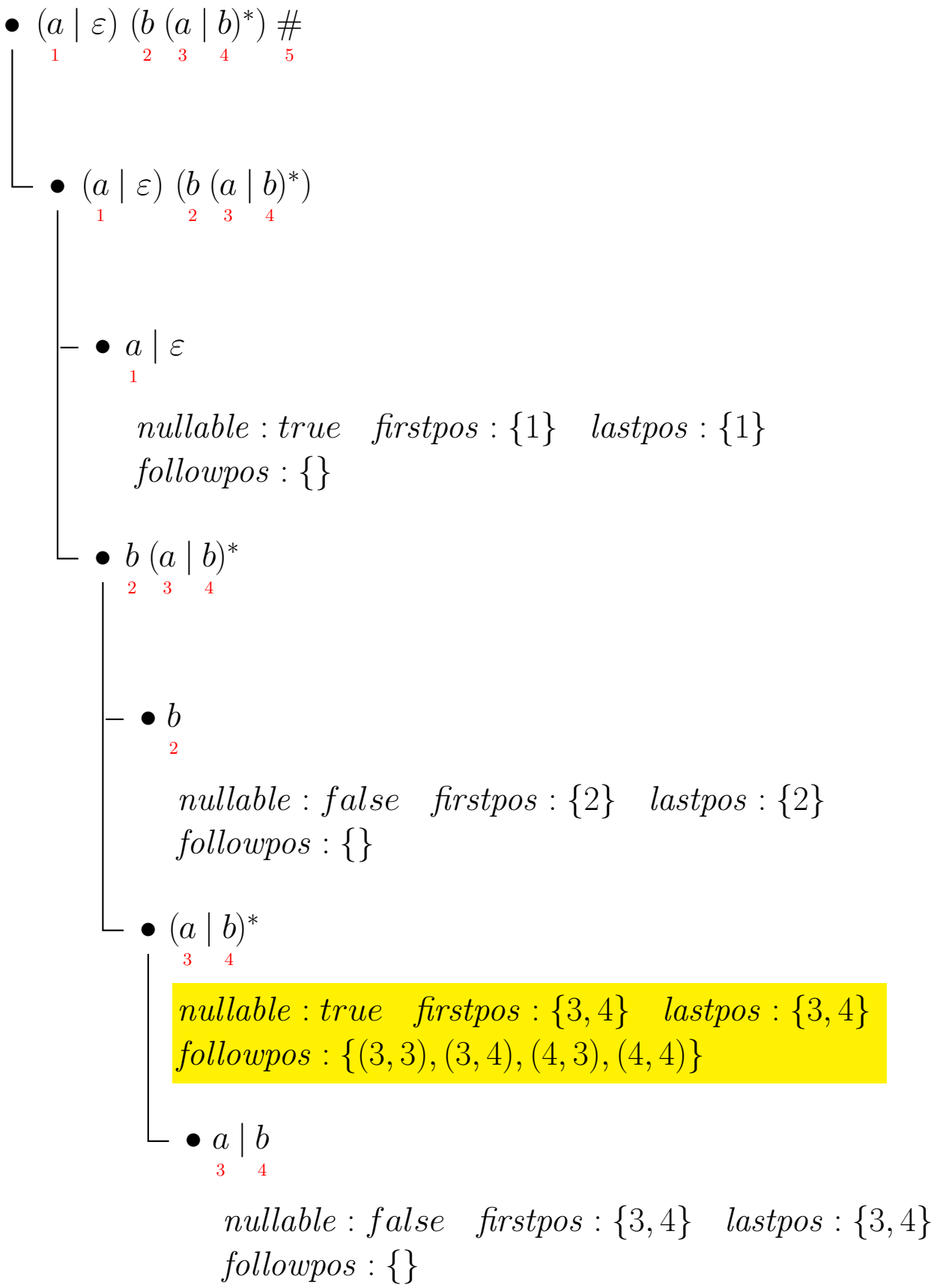
• a
3

$nullable : false \quad firstpos : \{3\} \quad lastpos : \{3\}$
 $followpos : \{\}$

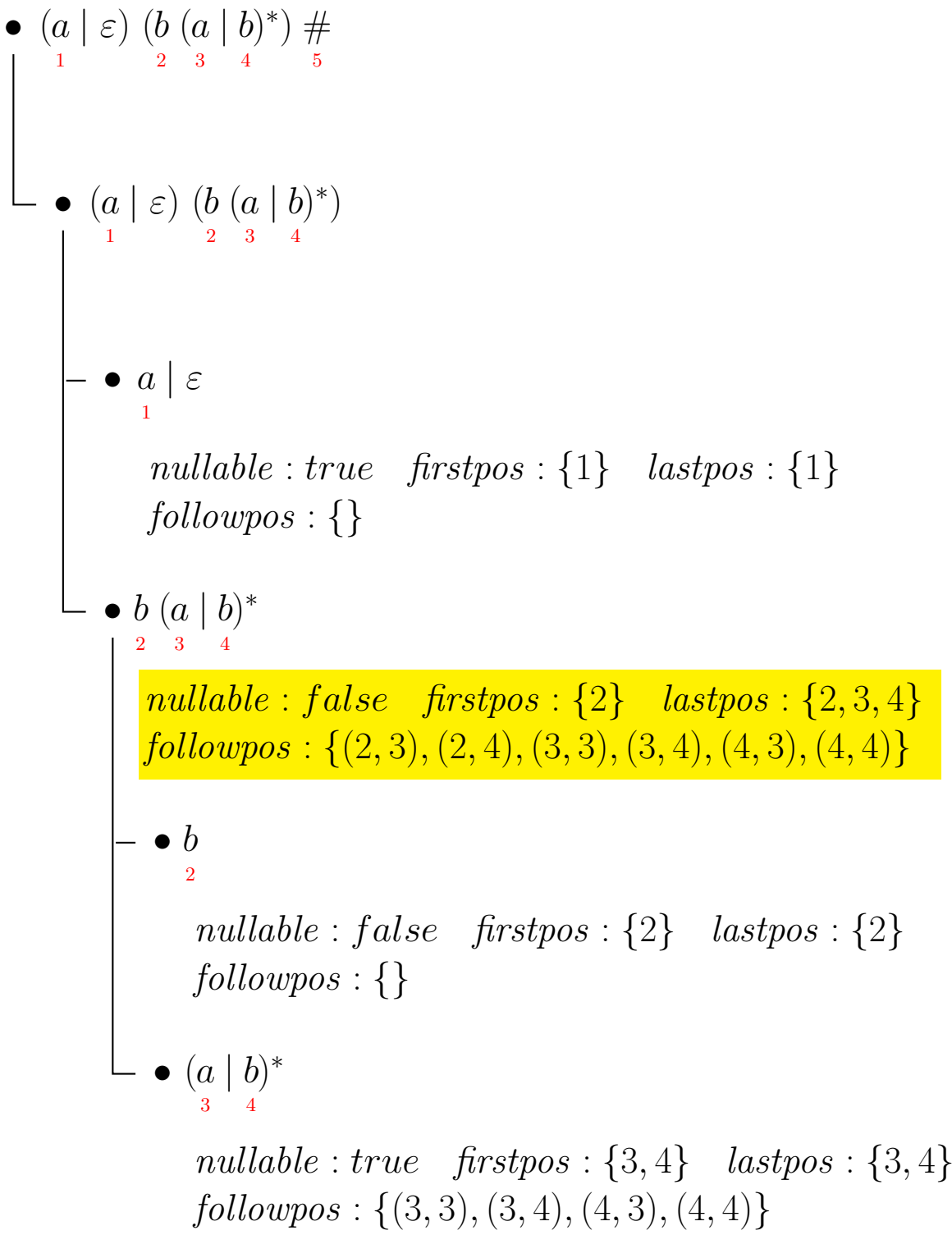
• b
4

$nullable : false \quad firstpos : \{4\} \quad lastpos : \{4\}$
 $followpos : \{\}$

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- $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

nullable : false *firstpos* : {1, 2} *lastpos* : {2, 3, 4}
followpos : {(1, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4)}

- $a \mid \varepsilon$
1

nullable : true *firstpos* : {1} *lastpos* : {1}
followpos : {}

- $b (a \mid b)^*$
2 3 4

nullable : false *firstpos* : {2} *lastpos* : {2, 3, 4}
followpos : {(2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4)}

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• $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5



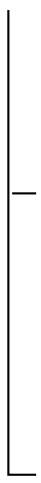
• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

nullable : false *firstpos* : {1, 2} *lastpos* : {2, 3, 4}
followpos : {(1, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4)}

• #
5

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1 2 3 4 5



• $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

nullable : false *firstpos* : {1, 2} *lastpos* : {2, 3, 4}
followpos : {(1, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4)}

• #
5

nullable : false *firstpos* : {5} *lastpos* : {5}
followpos : {}

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- $(a \mid \varepsilon) (b (a \mid b)^*) \#$
1 2 3 4 5

nullable : false *firstpos* : {1, 2} *lastpos* : {5}
followpos : {(1, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4), (2, 5), (3, 5), (4, 5)}

- $(a \mid \varepsilon) (b (a \mid b)^*)$
1 2 3 4

nullable : false *firstpos* : {1, 2} *lastpos* : {2, 3, 4}
followpos : {(1, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 3), (4, 4)}

- $\#$
5

nullable : false *firstpos* : {5} *lastpos* : {5}
followpos : {}