

1.3 DIJKSTRA'S TWO-STACK ALGORITHM



[click to begin demo](#)

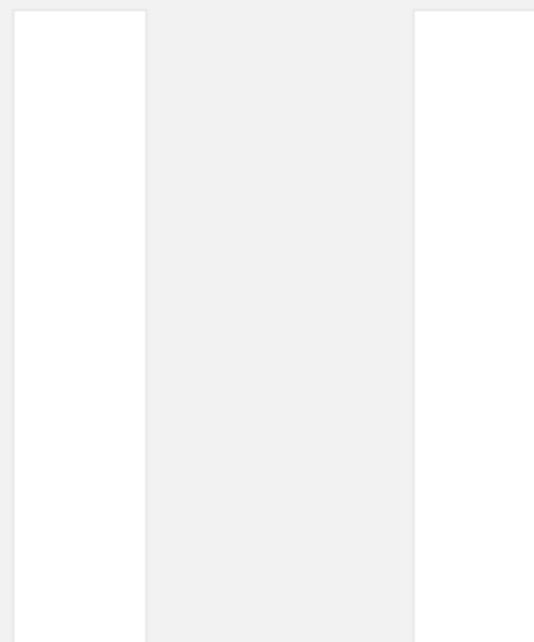
Dijkstra's two-stack algorithm

Value: push onto the value stack.

Operator: push onto the operator stack.

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Right parenthesis: pop operator and two values; push the result of applying that operator to those values onto the operand stack.



value stack

operator stack

infix expression

(fully parenthesized)



operand

operator

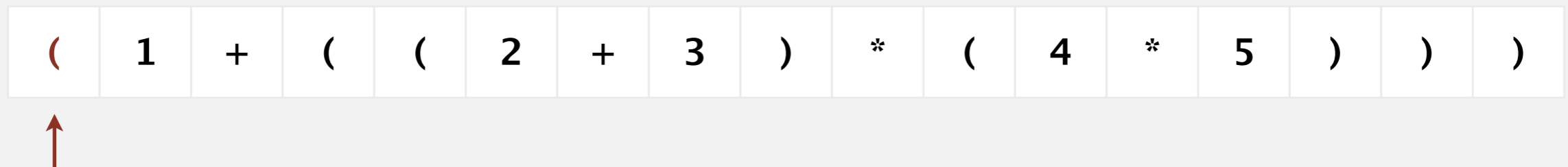
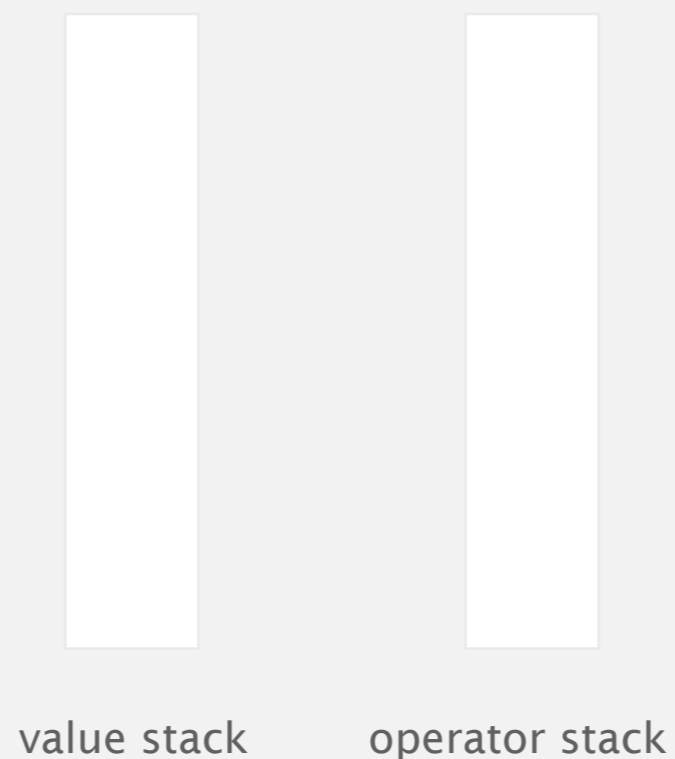
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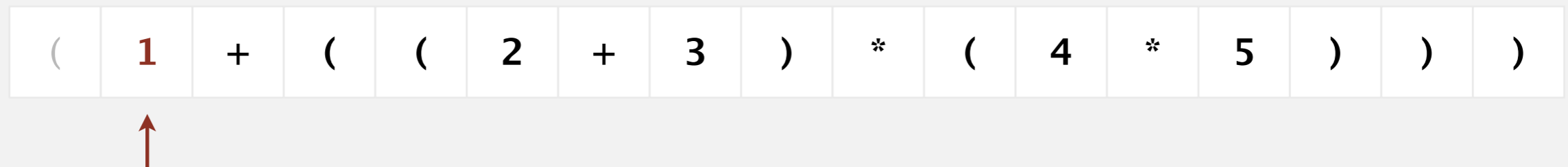
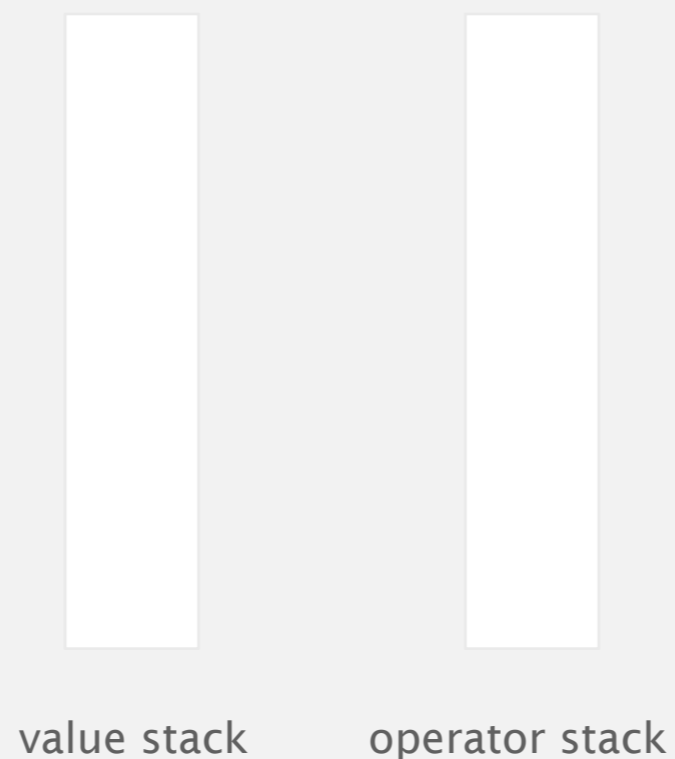
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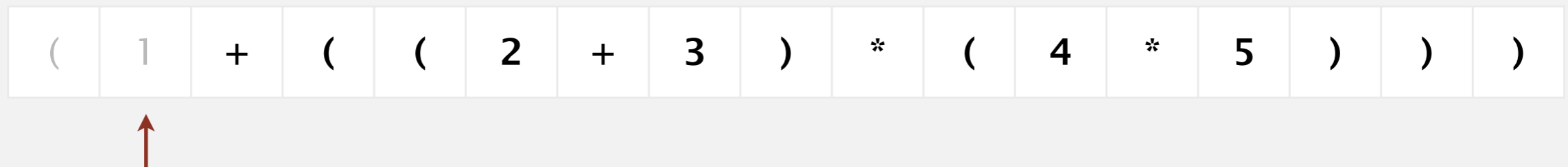
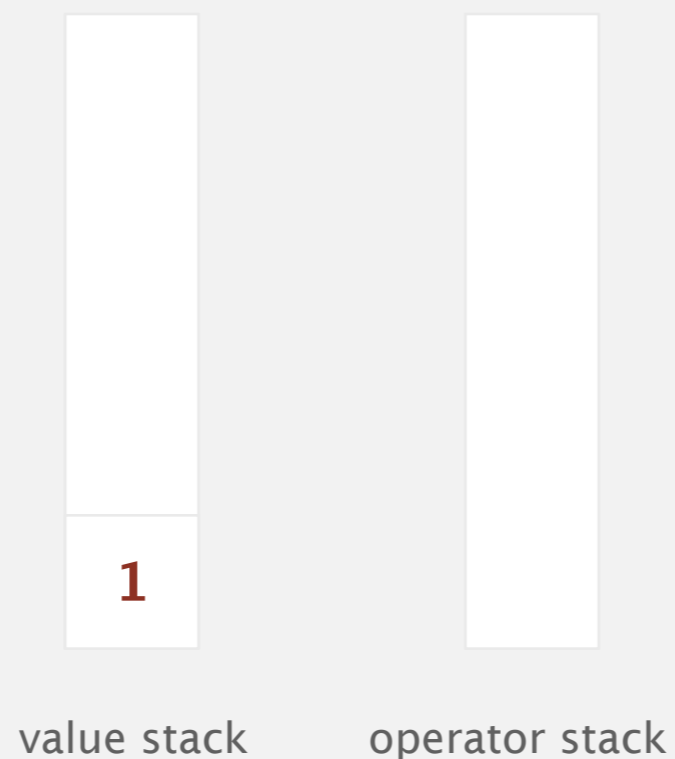
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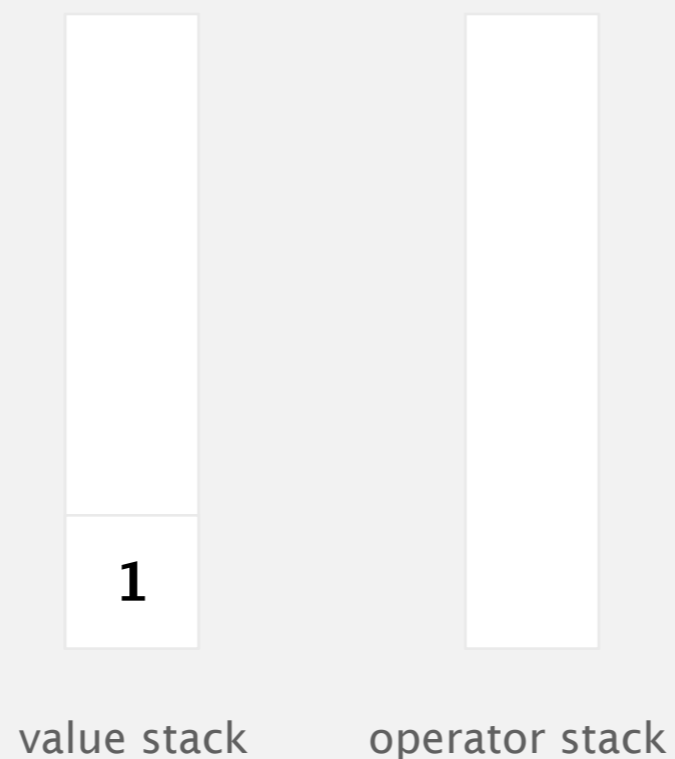
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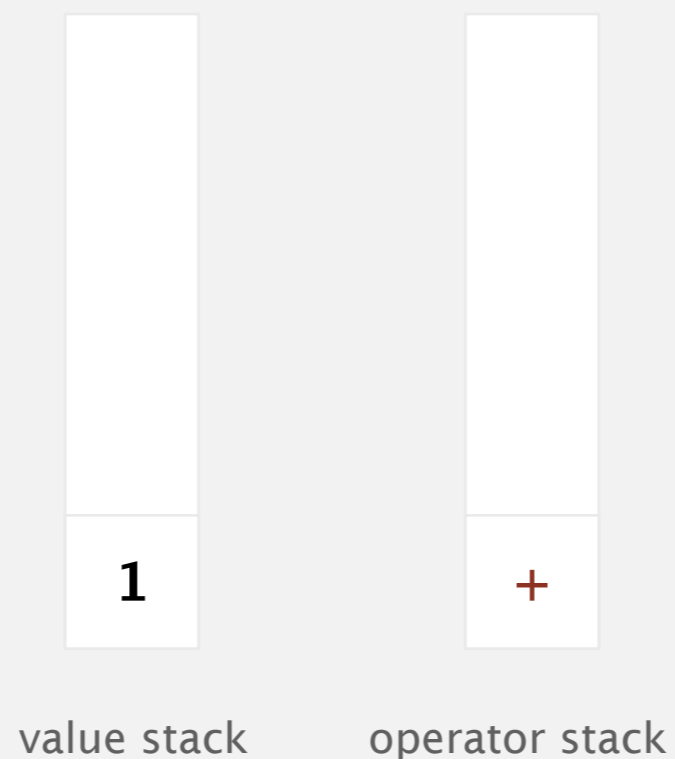
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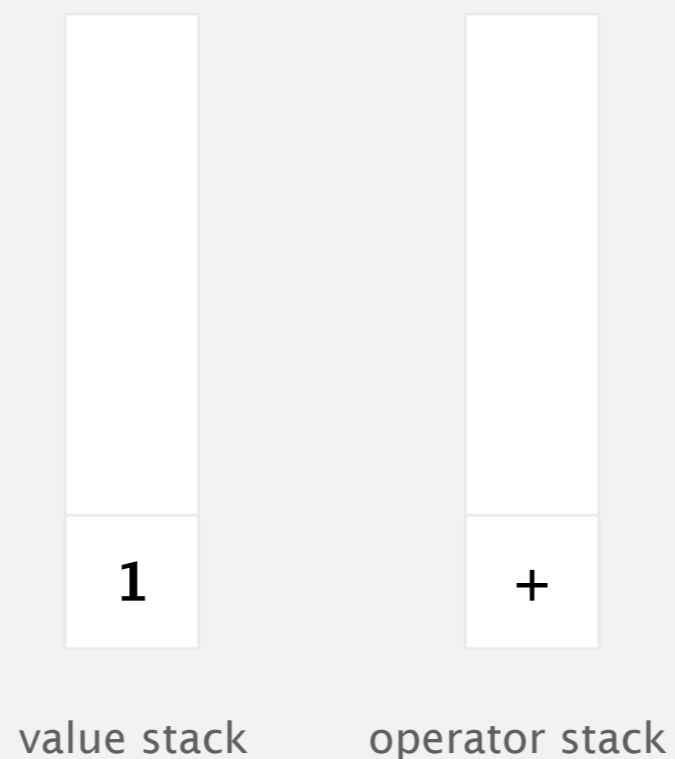
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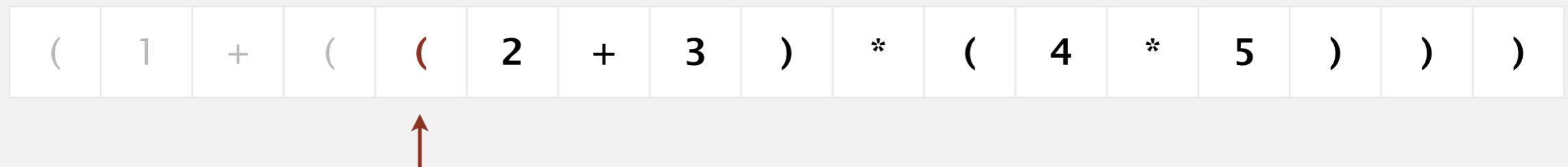
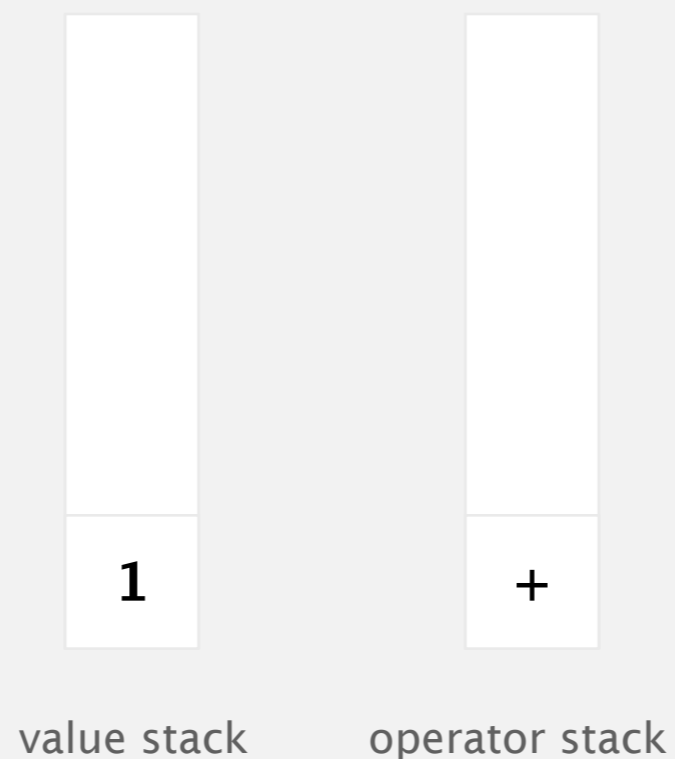
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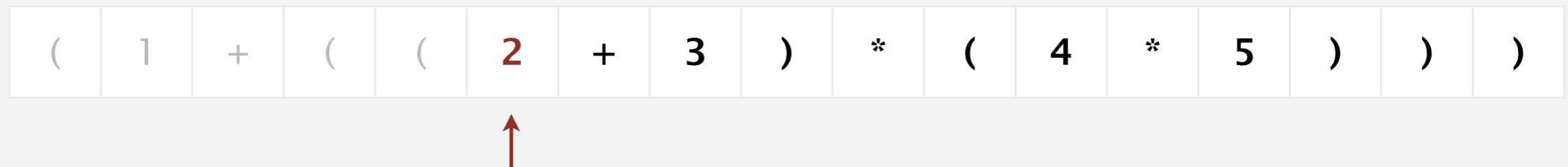
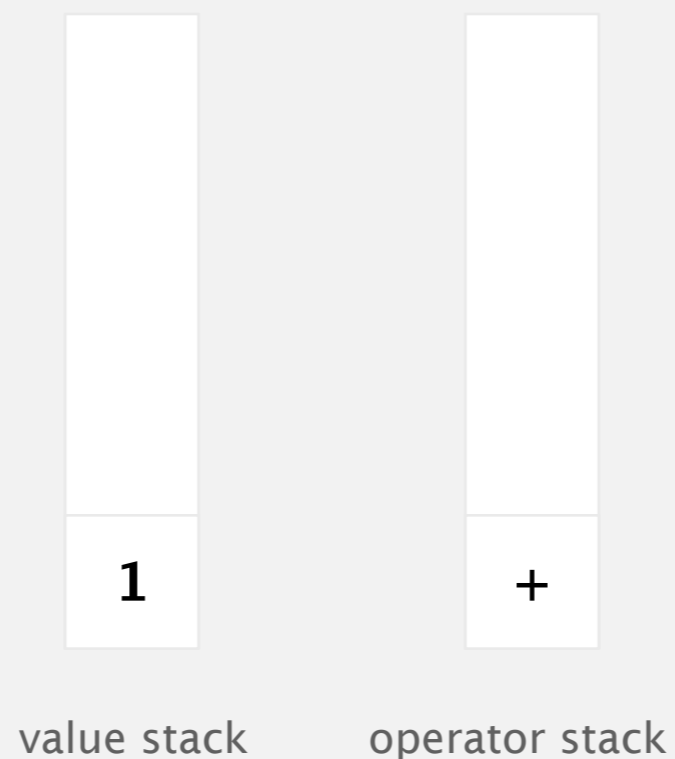
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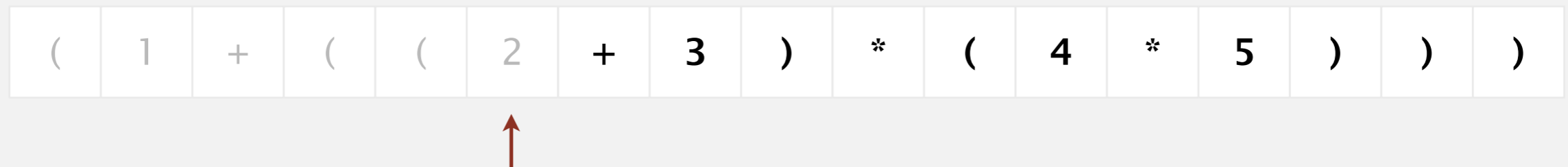
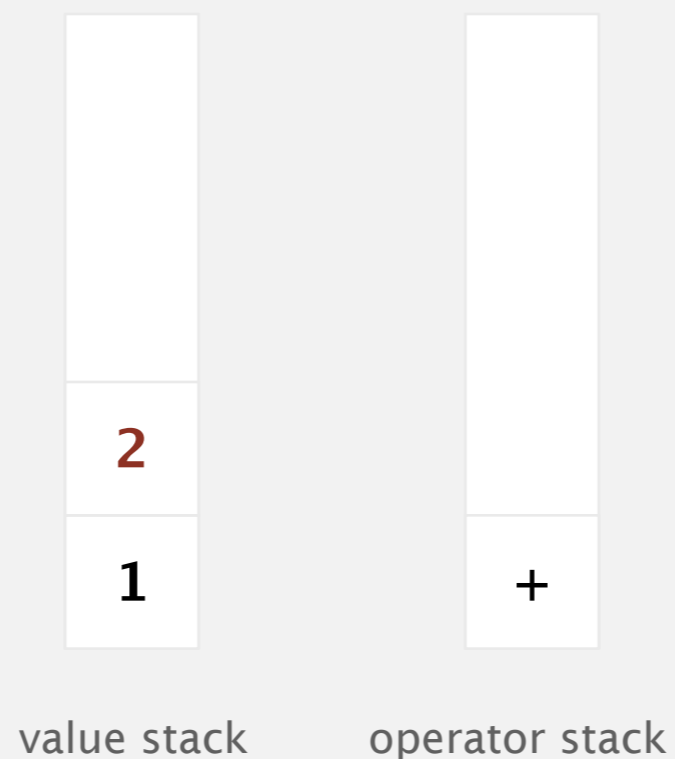
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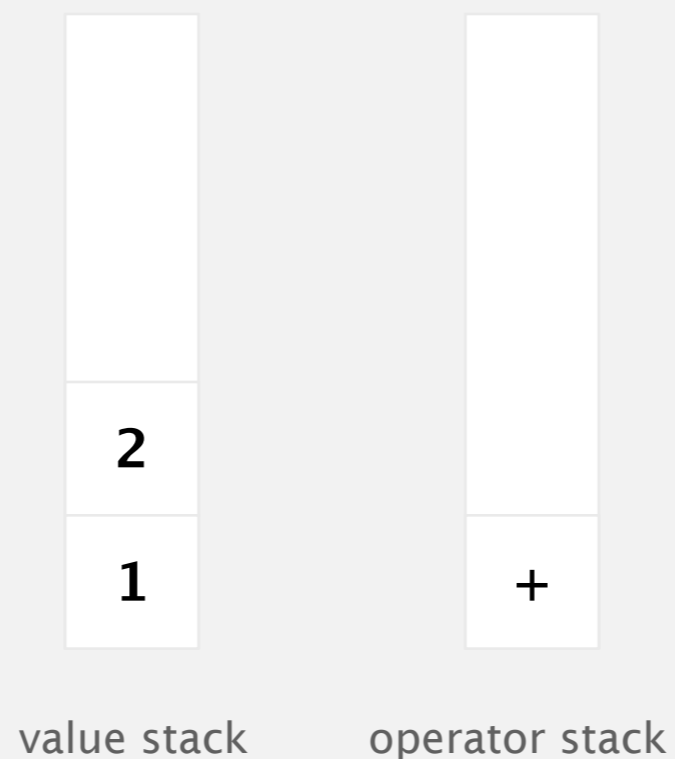
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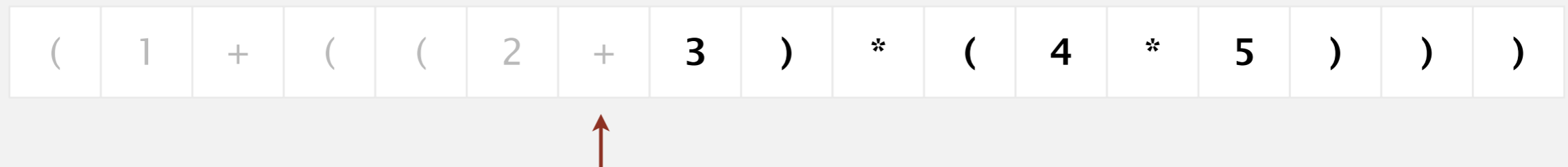
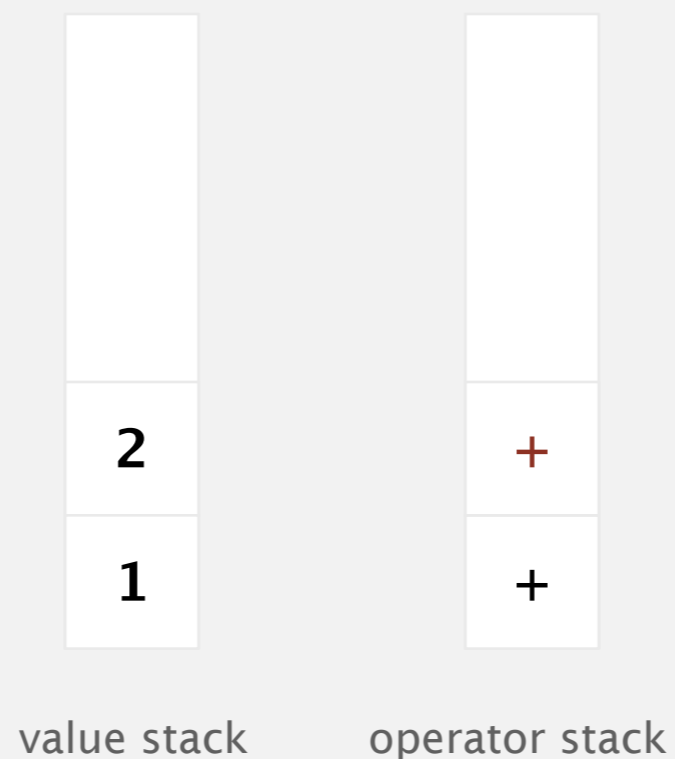
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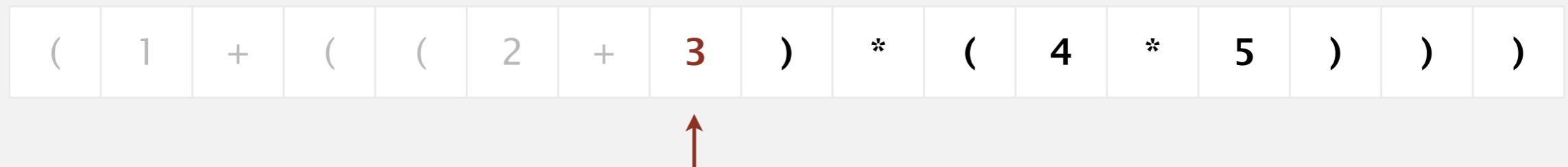
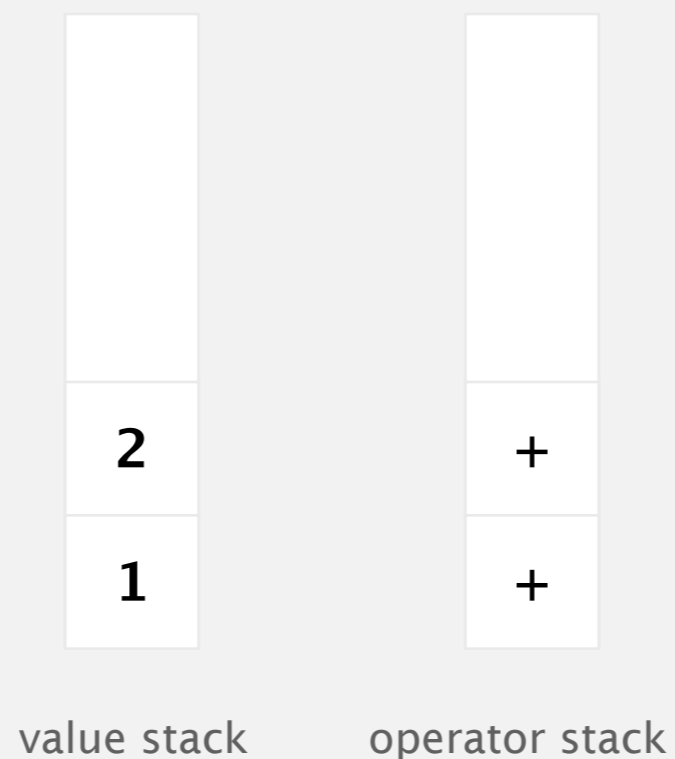
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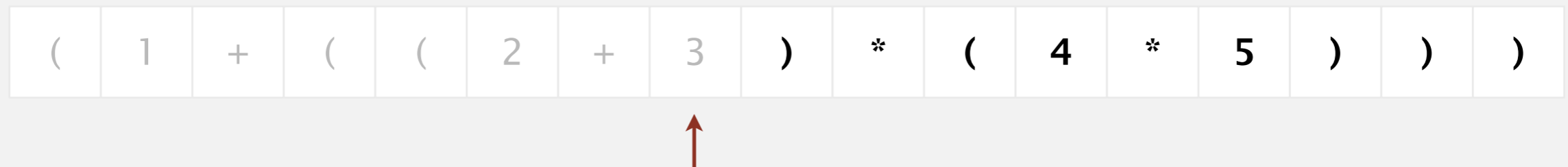
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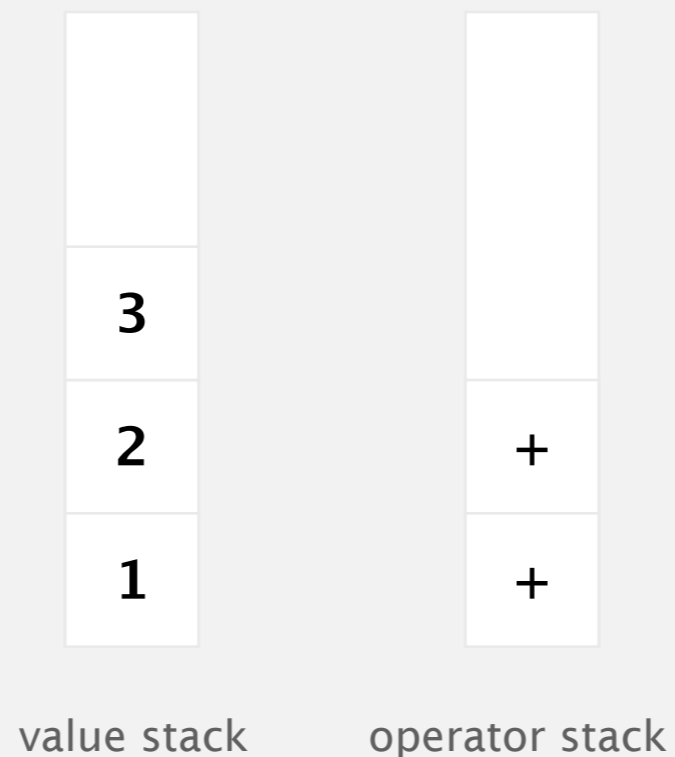
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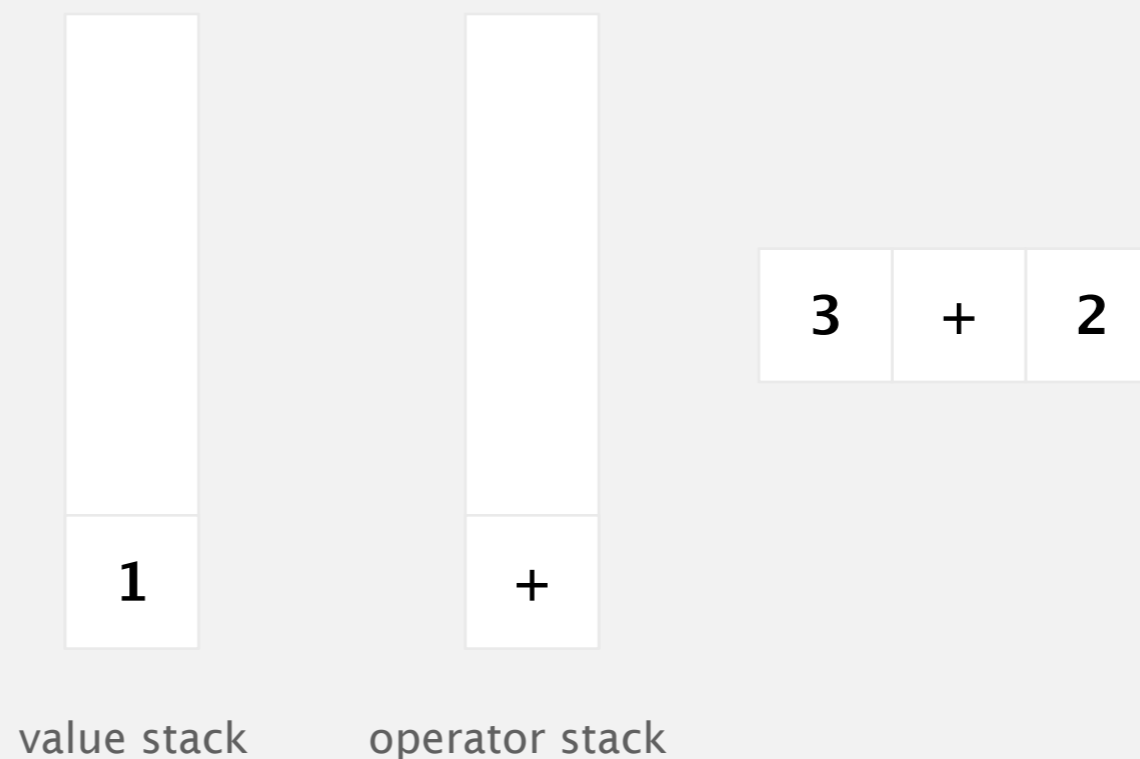
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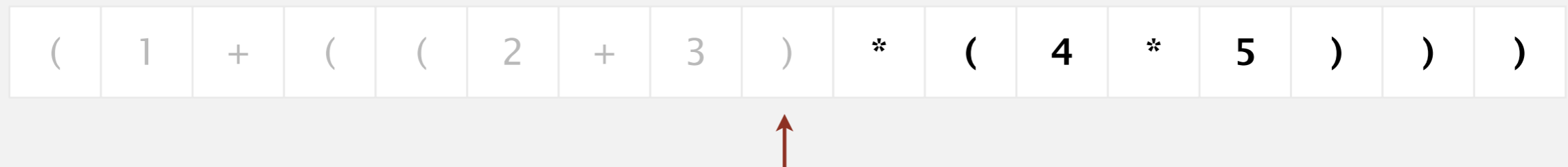
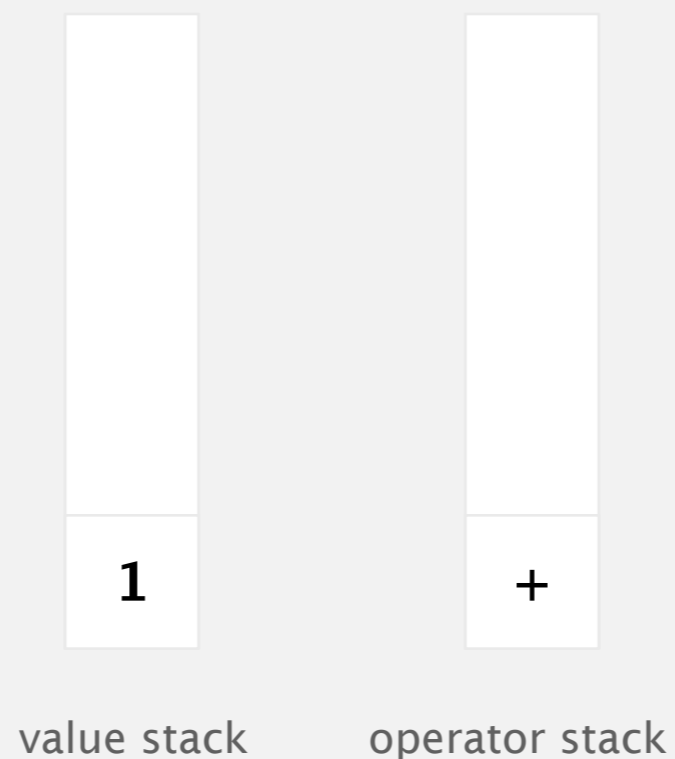
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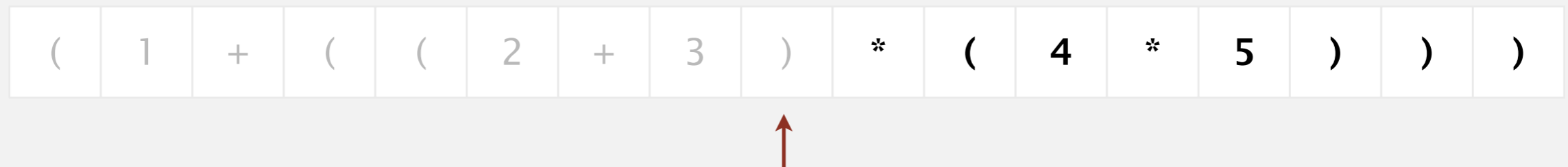
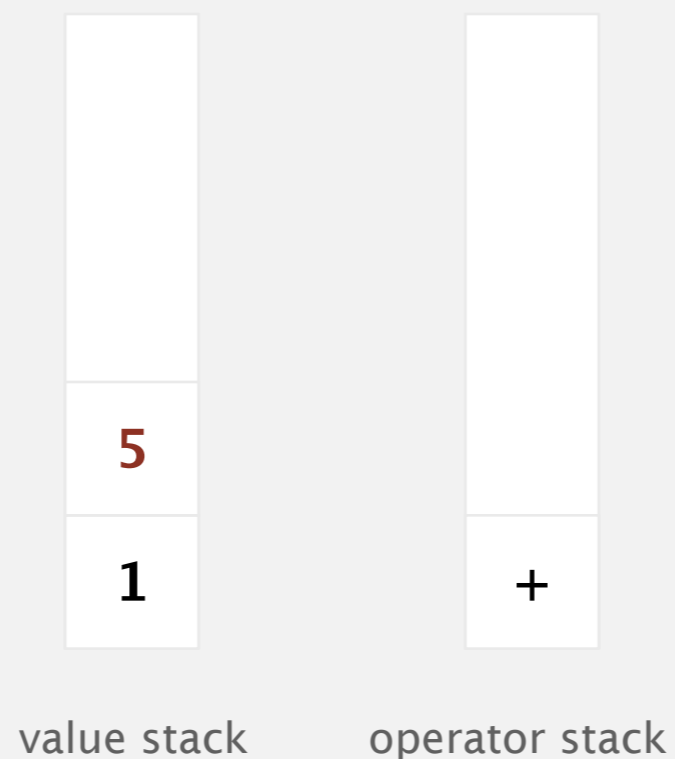
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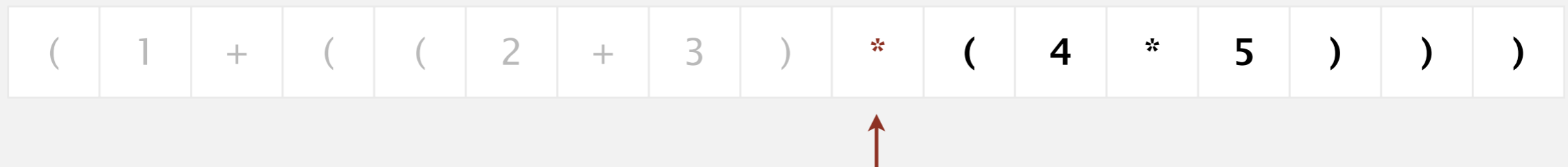
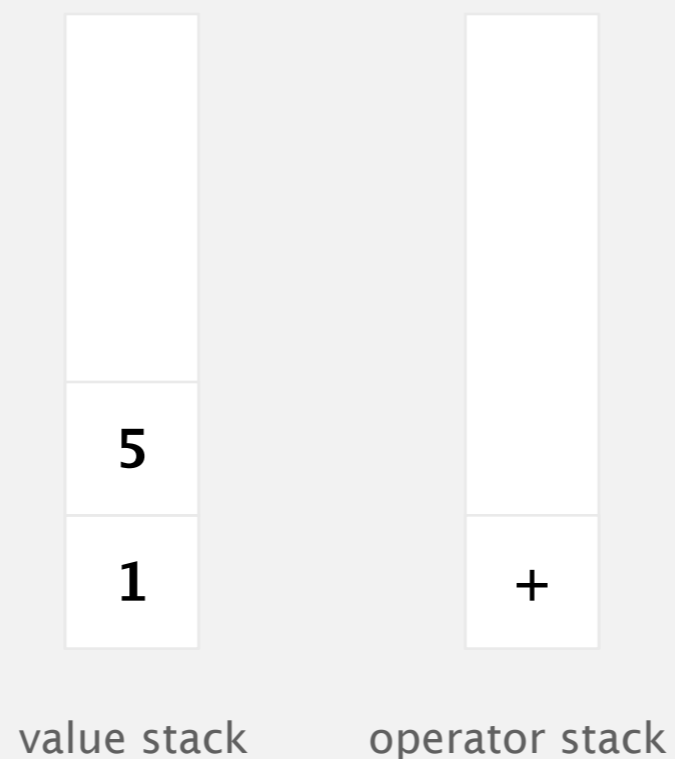
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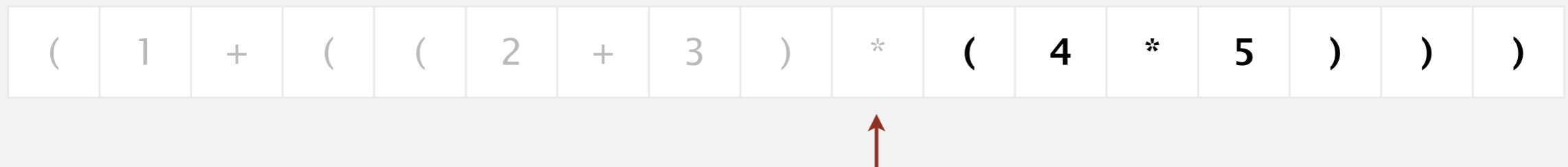
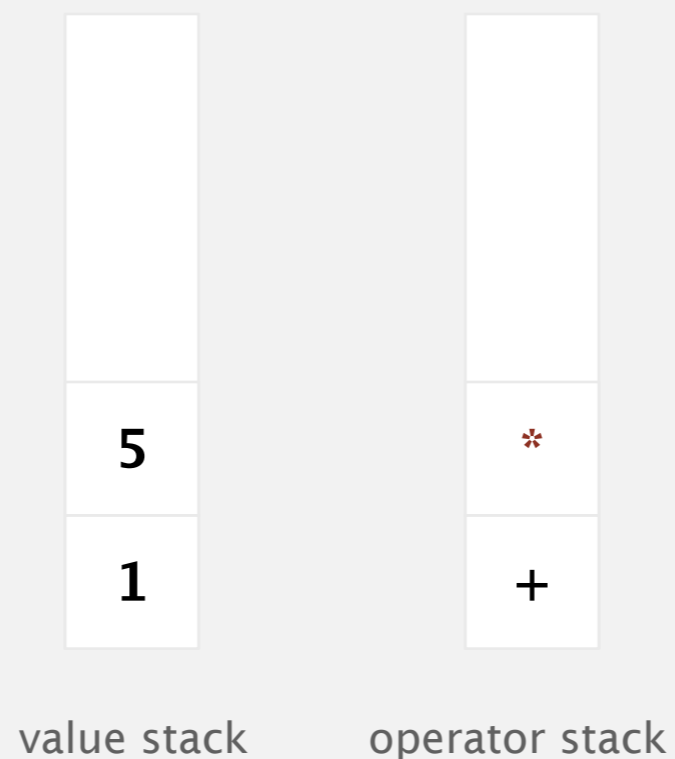
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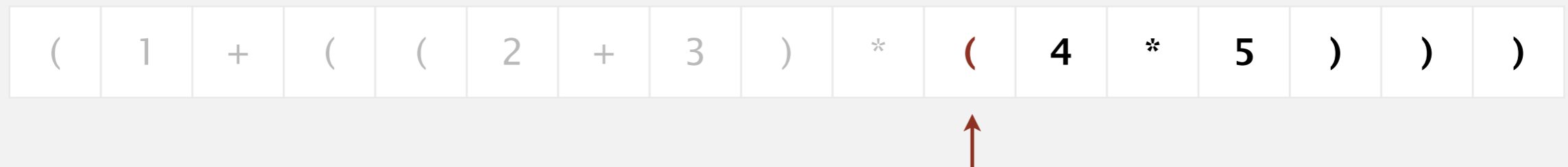
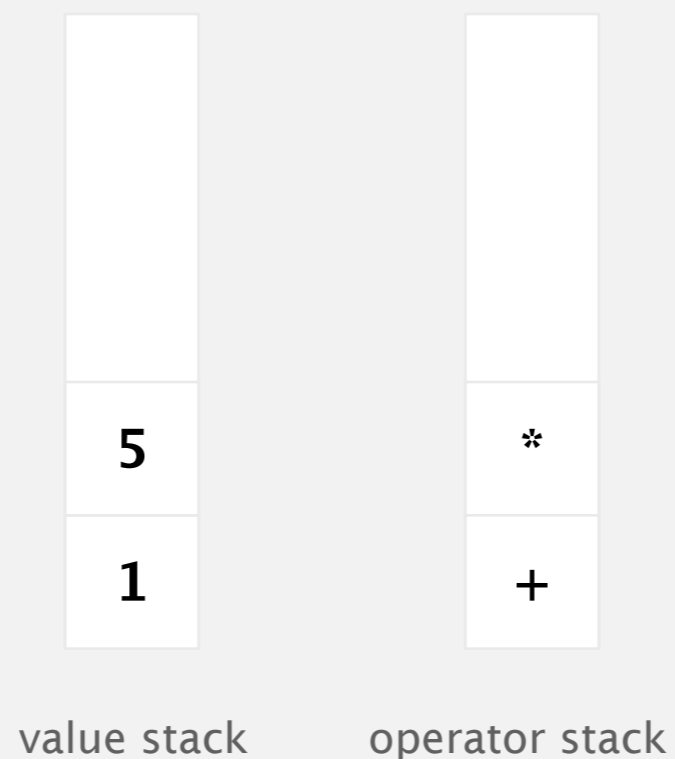
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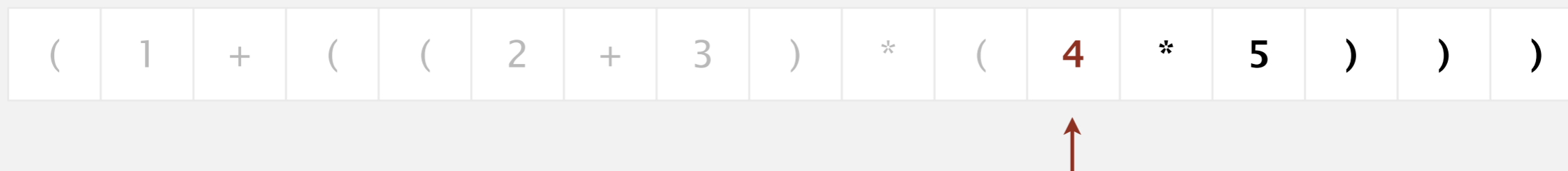
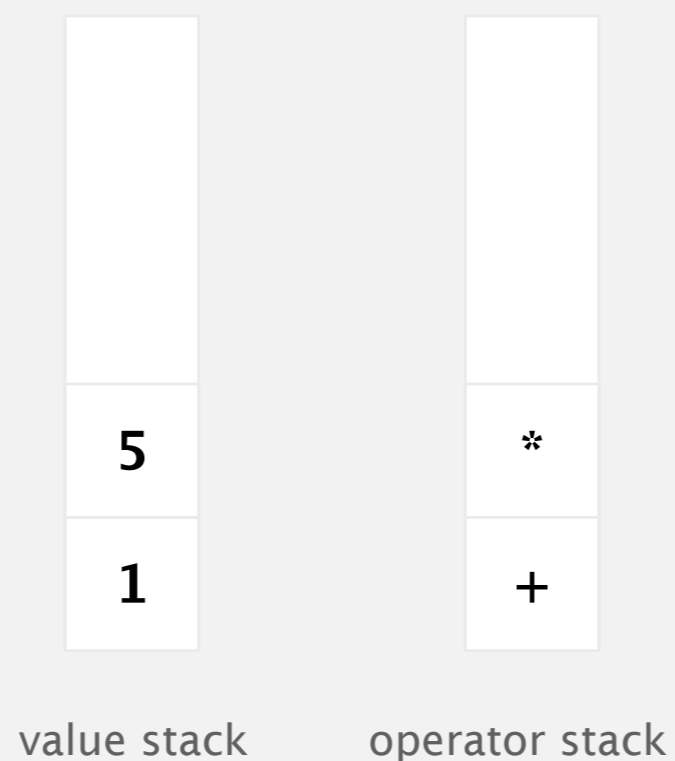
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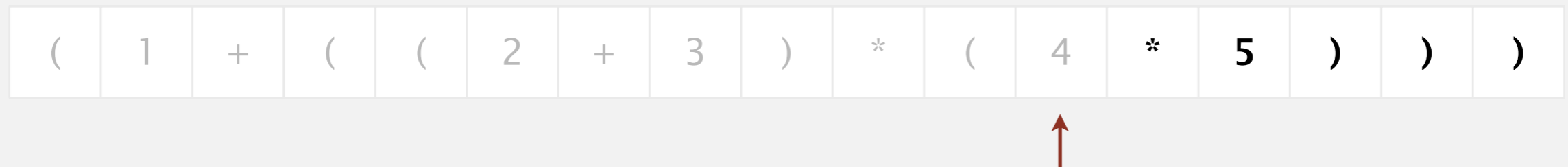
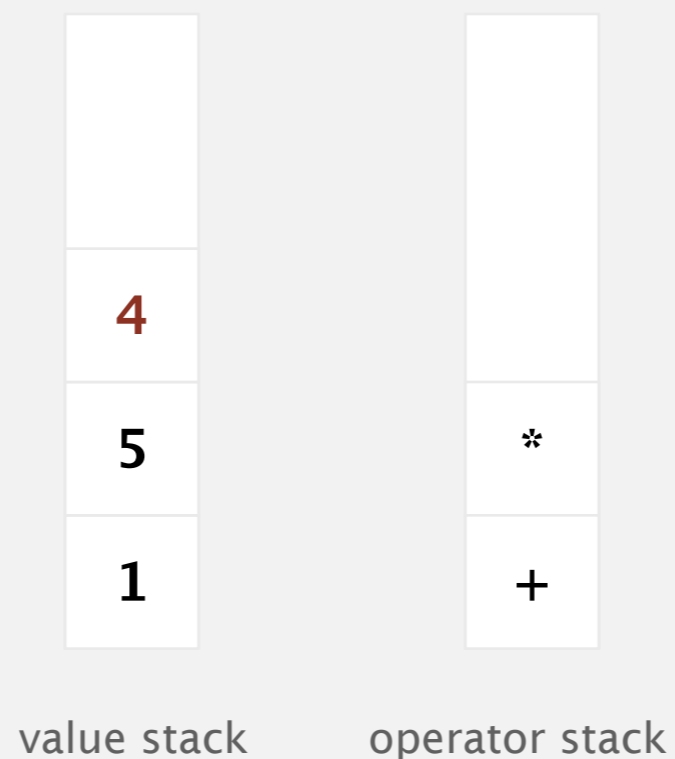
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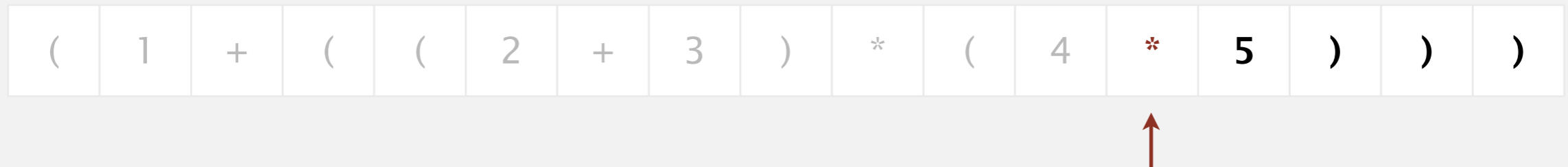
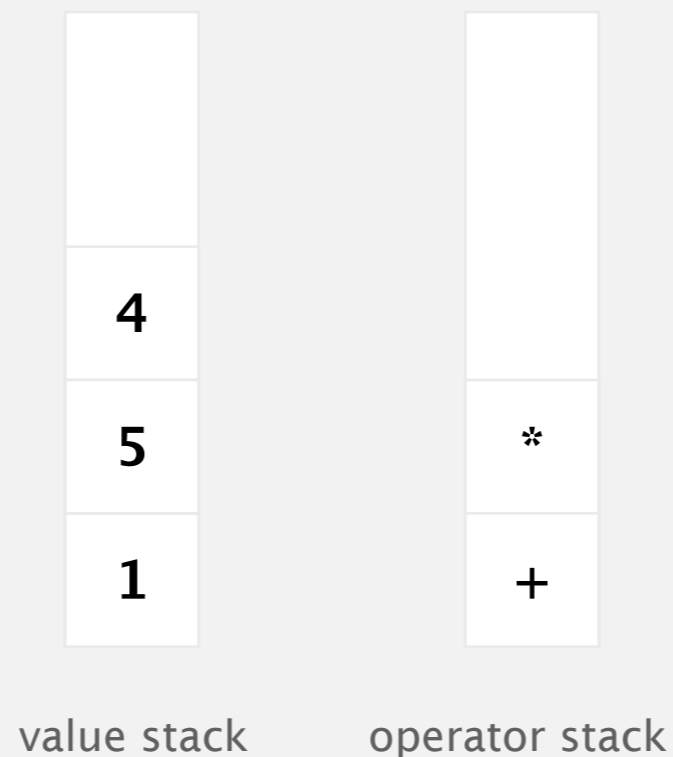
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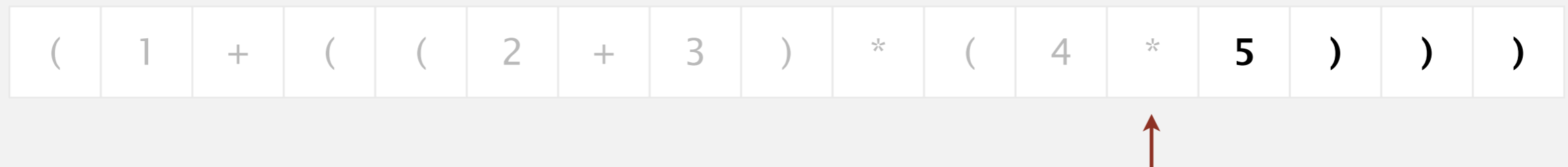
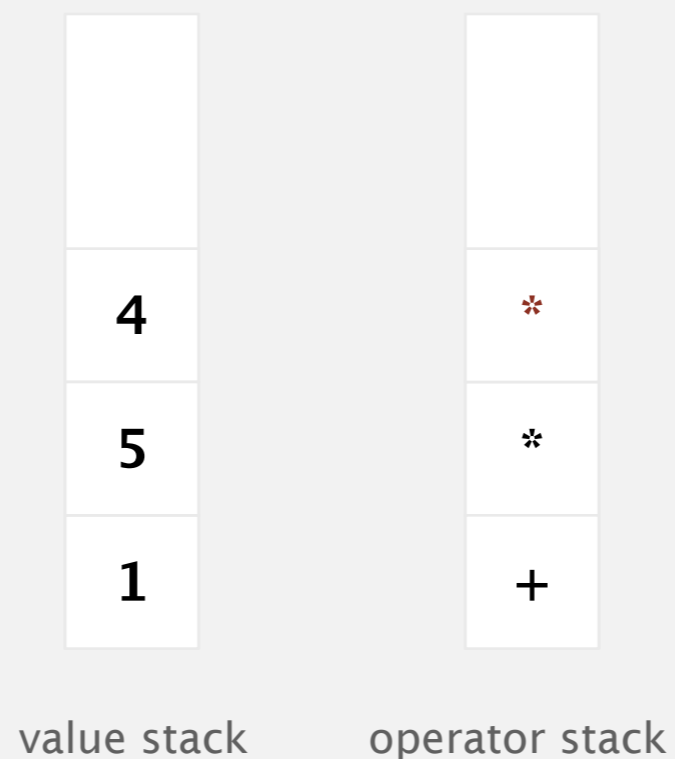
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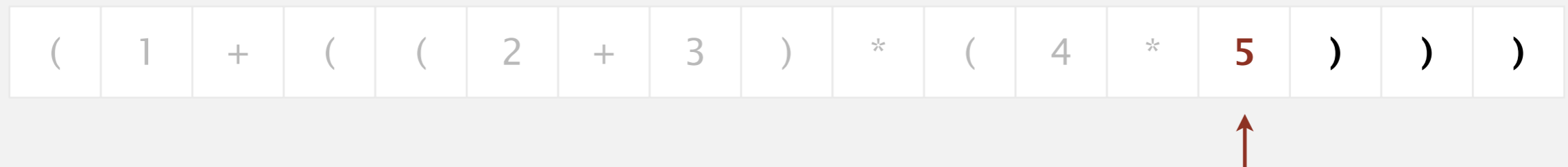
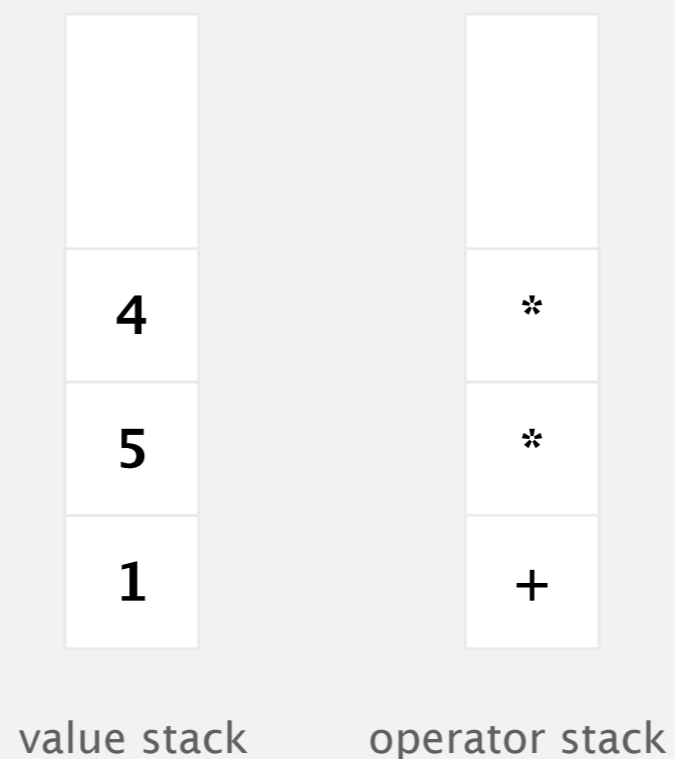
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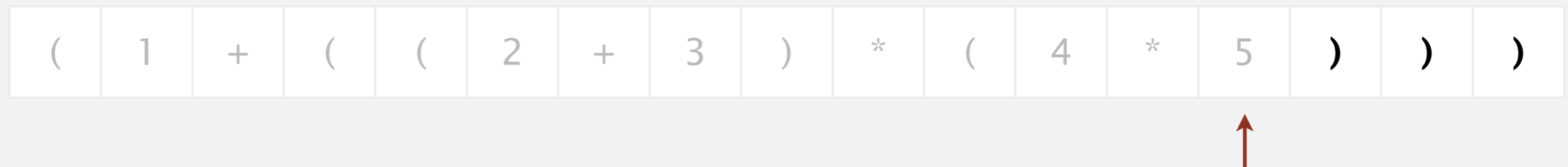
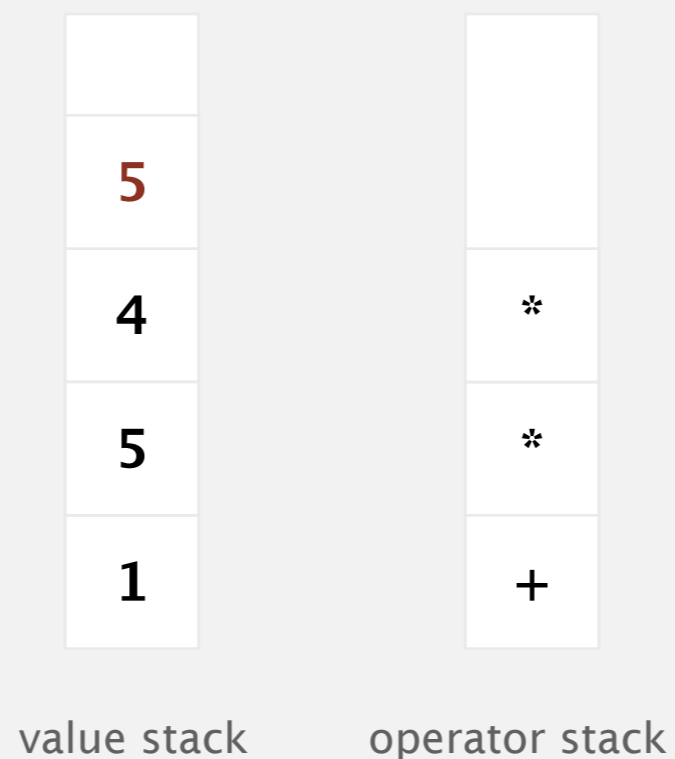
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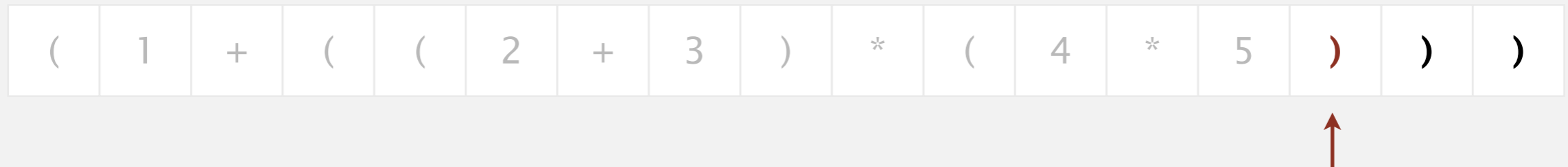
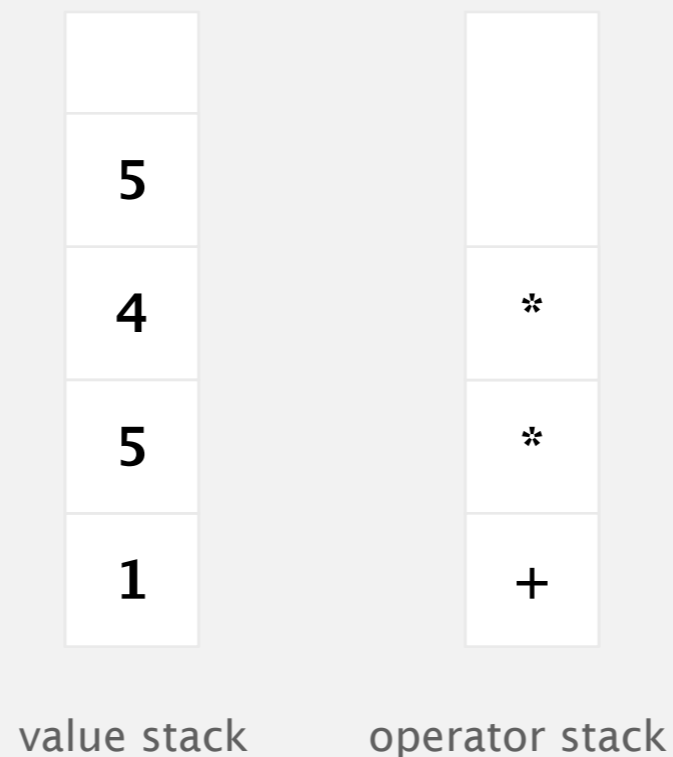
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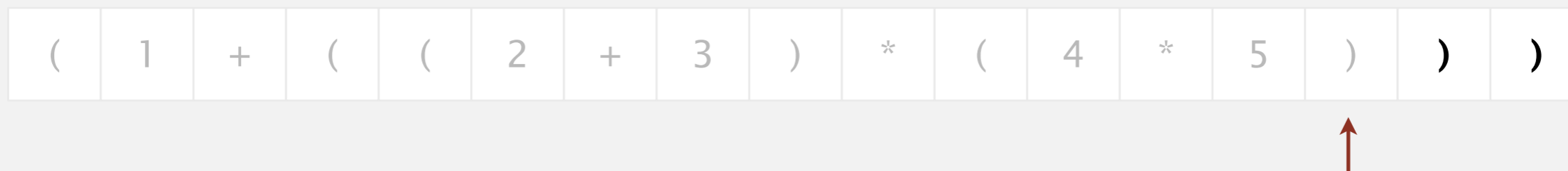
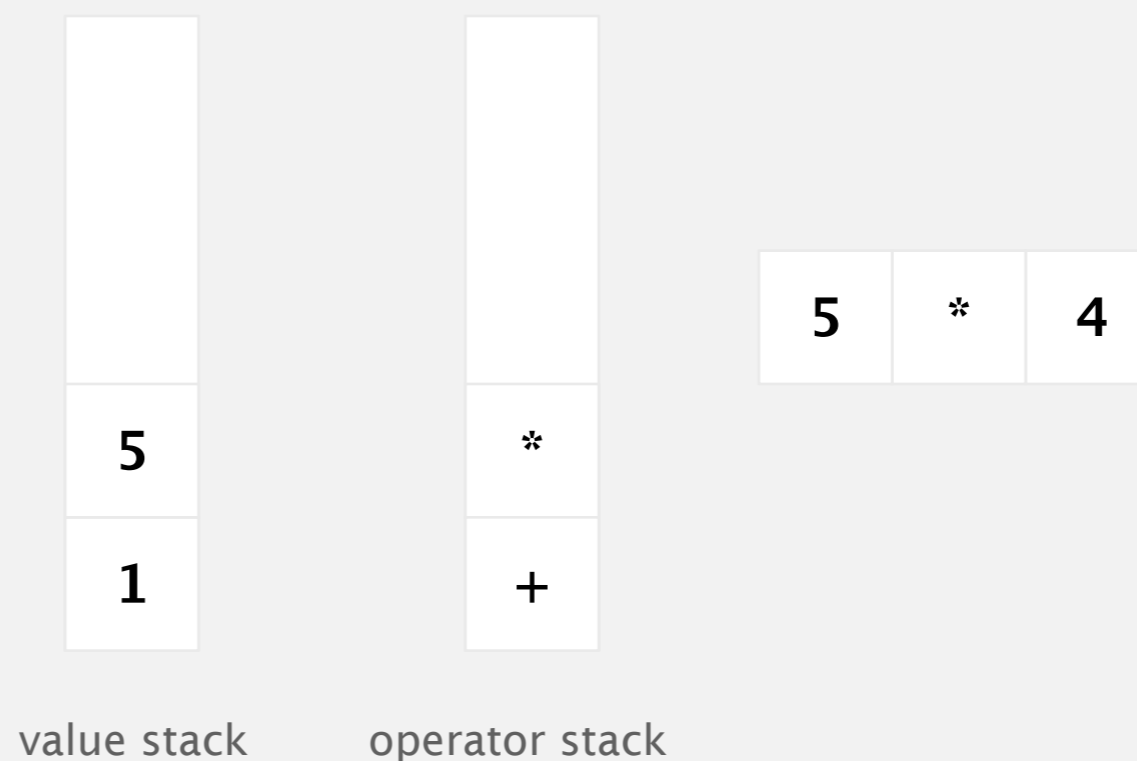
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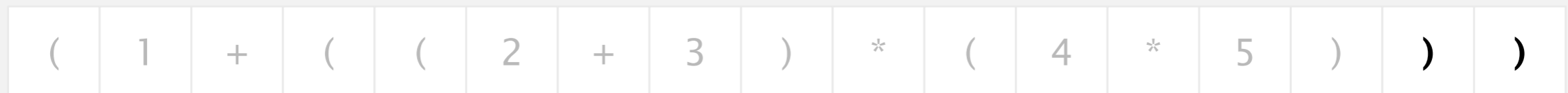
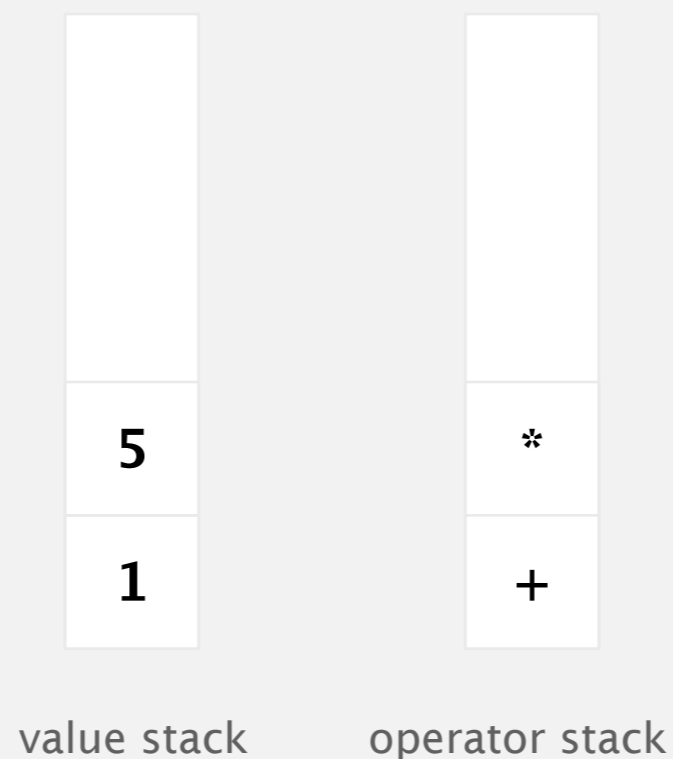
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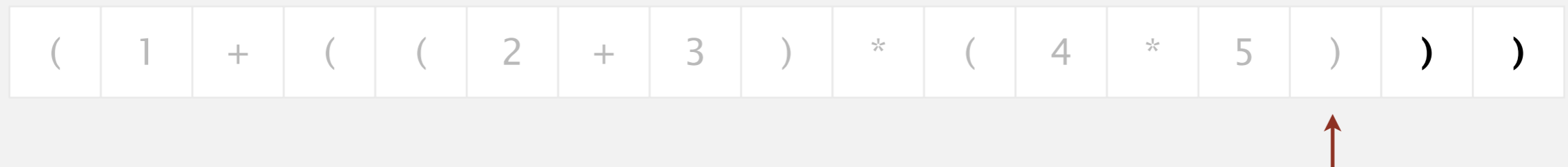
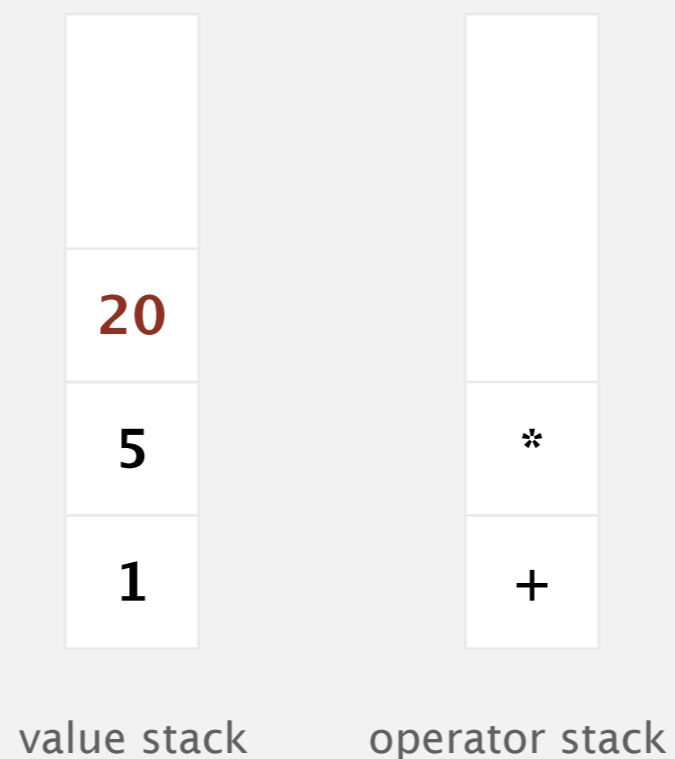
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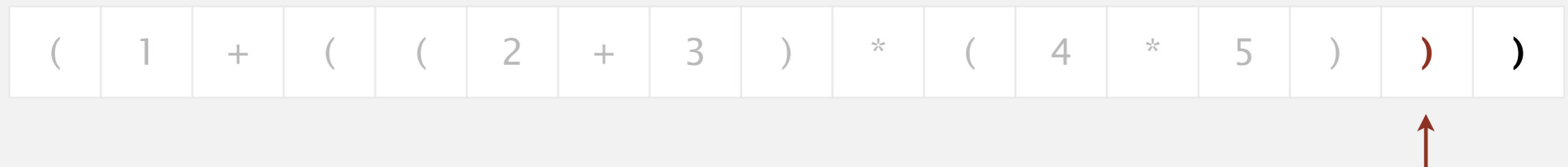
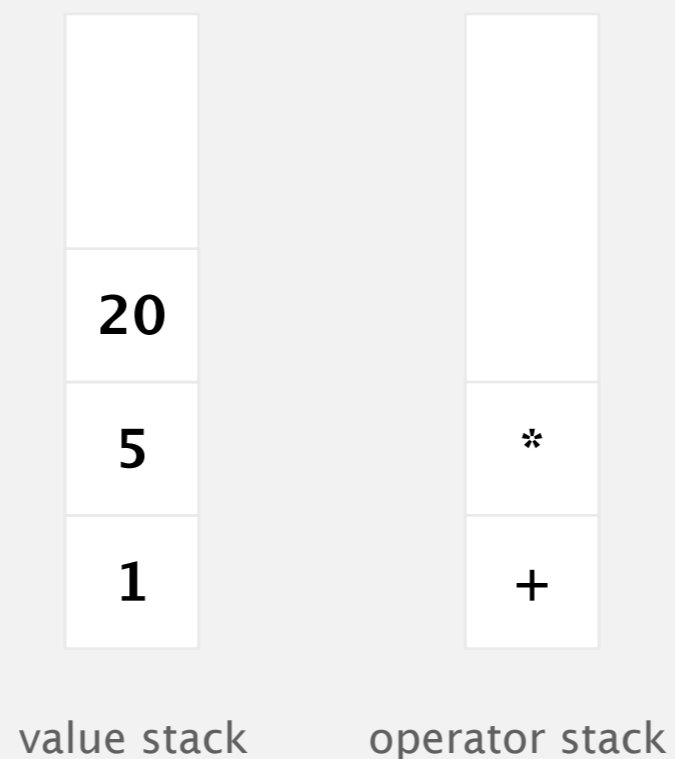
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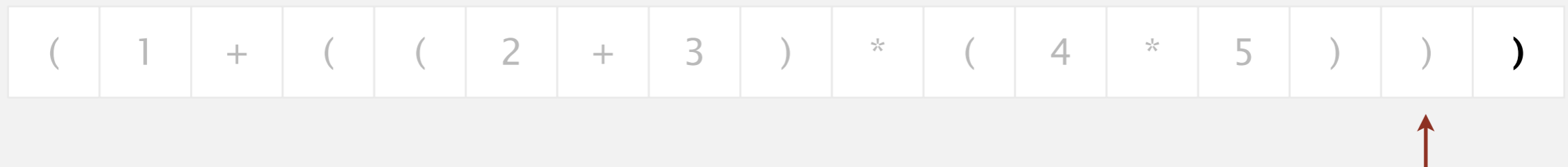
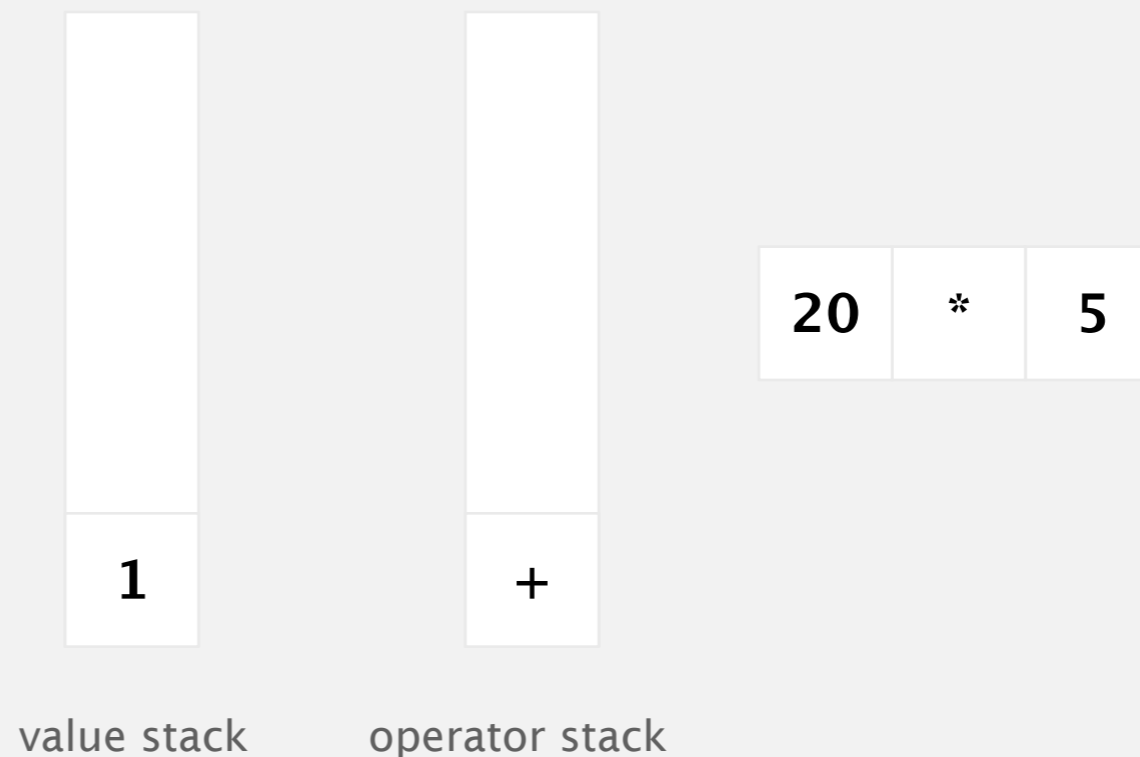
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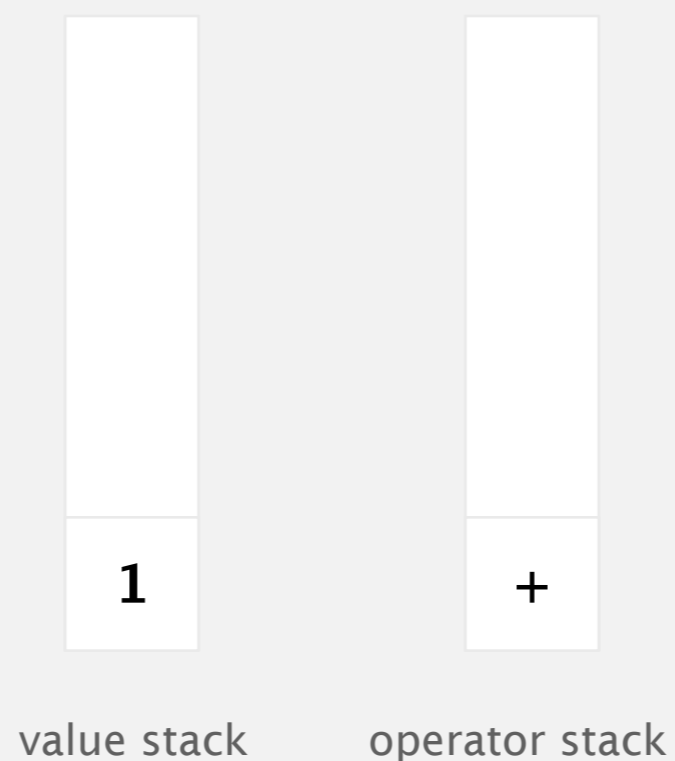
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20	*	5	=	100
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(1	+	((2	+	3)	*	(4	*	5)))
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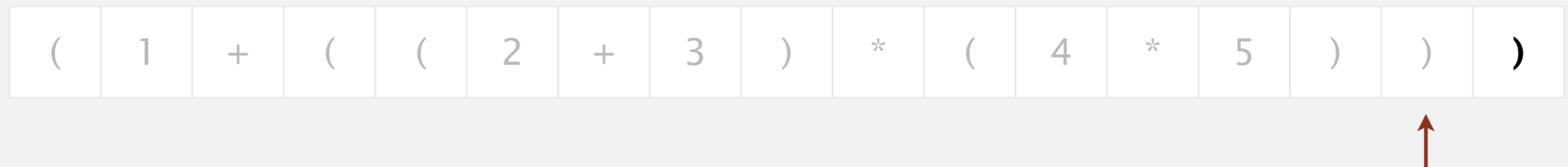
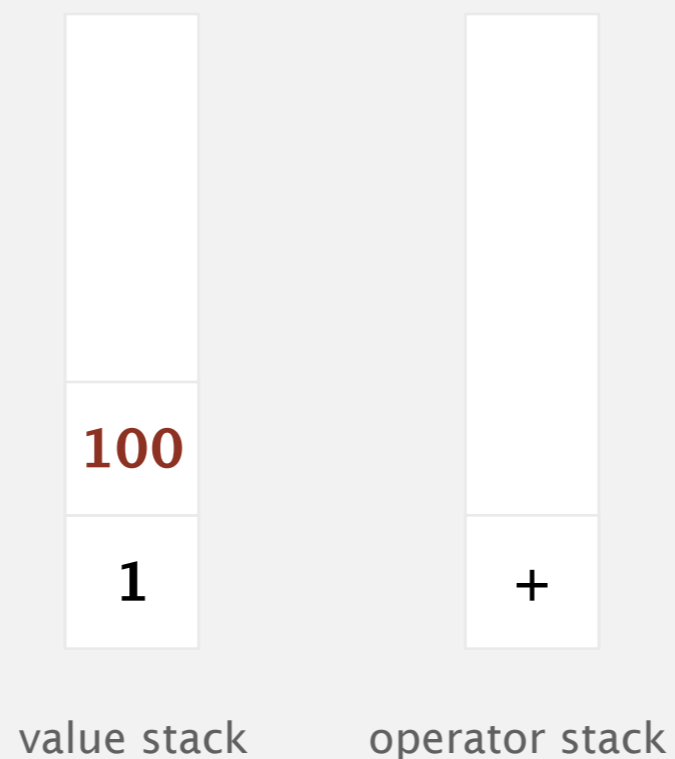
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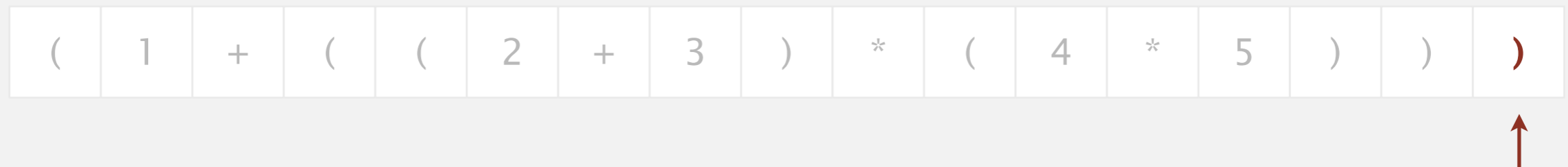
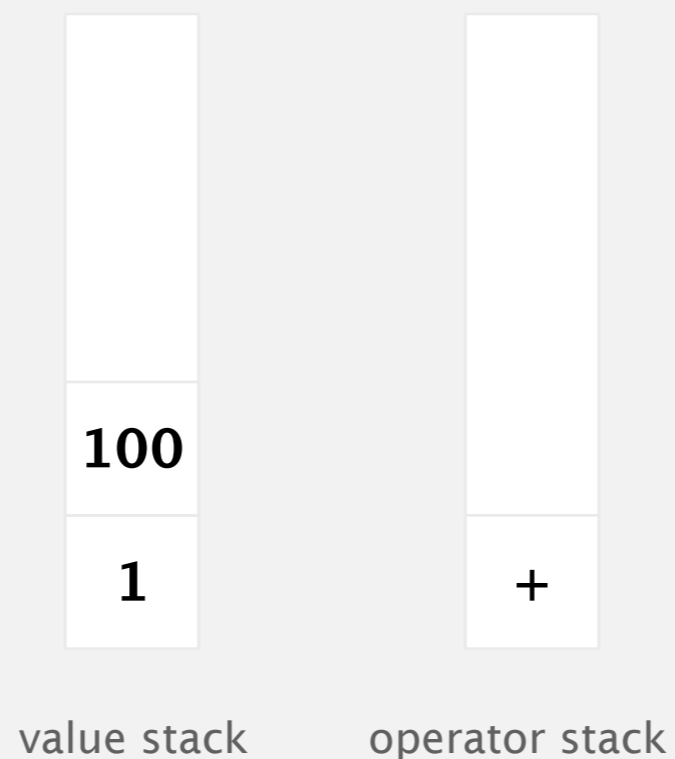
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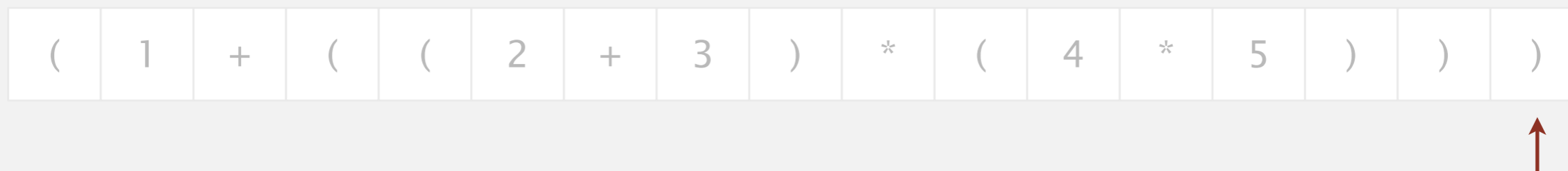
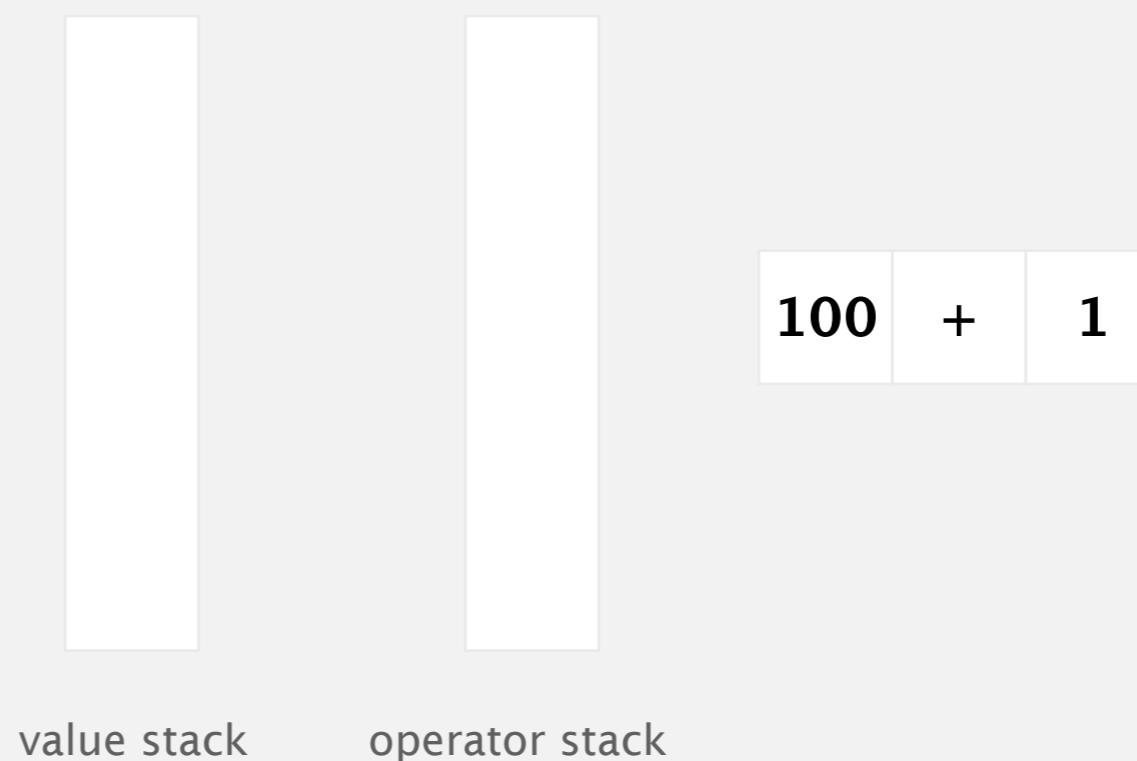
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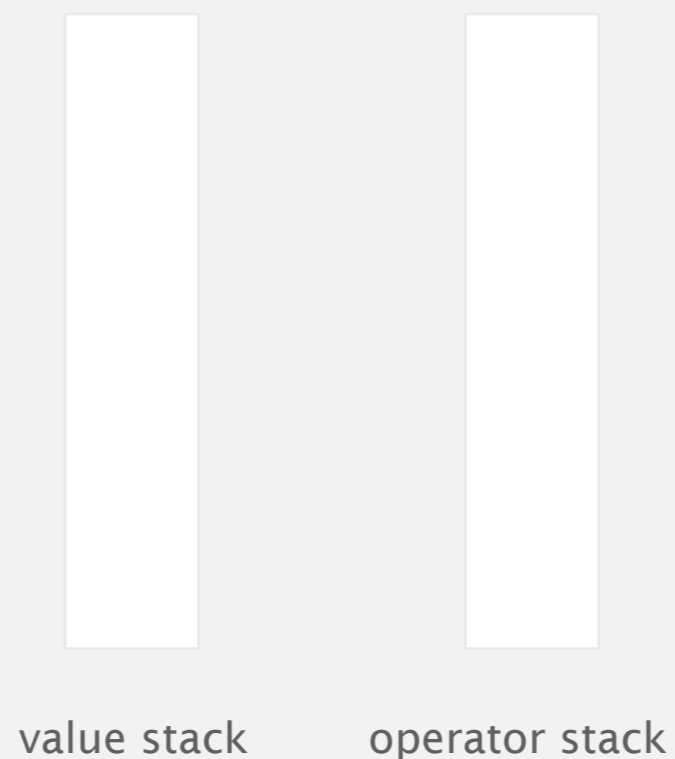
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Operator: push onto the operator stack.

Left parenthesis: ignore.

Right parenthesis: pop operator and two values; push the result of applying that operator to those values onto the operand stack.



100	+	1	=	101
-----	---	---	---	-----

(1	+	((2	+	3)	*	(4	*	5)))
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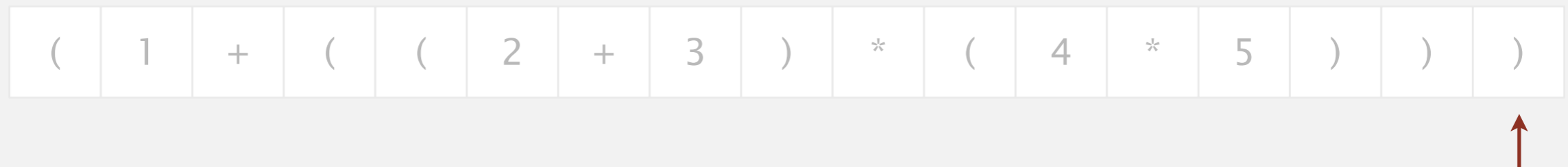
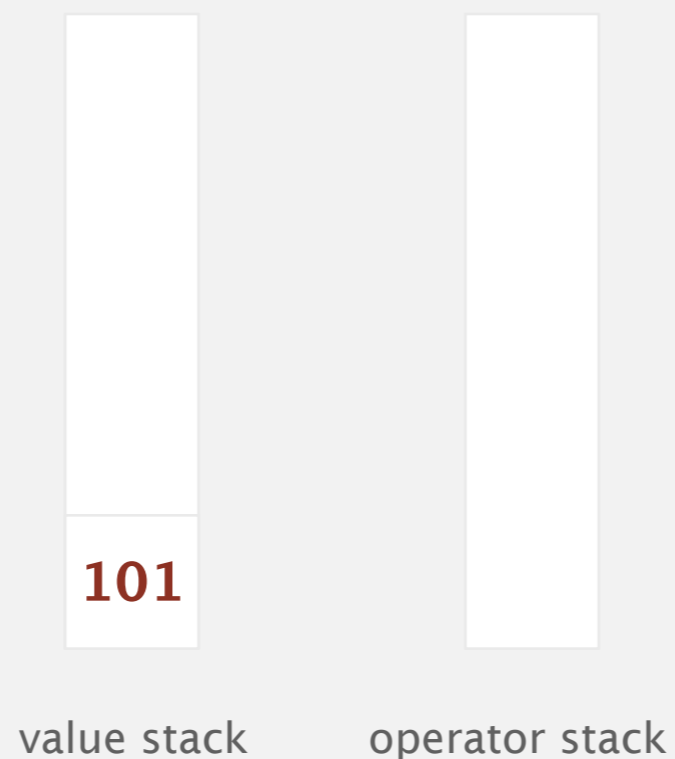
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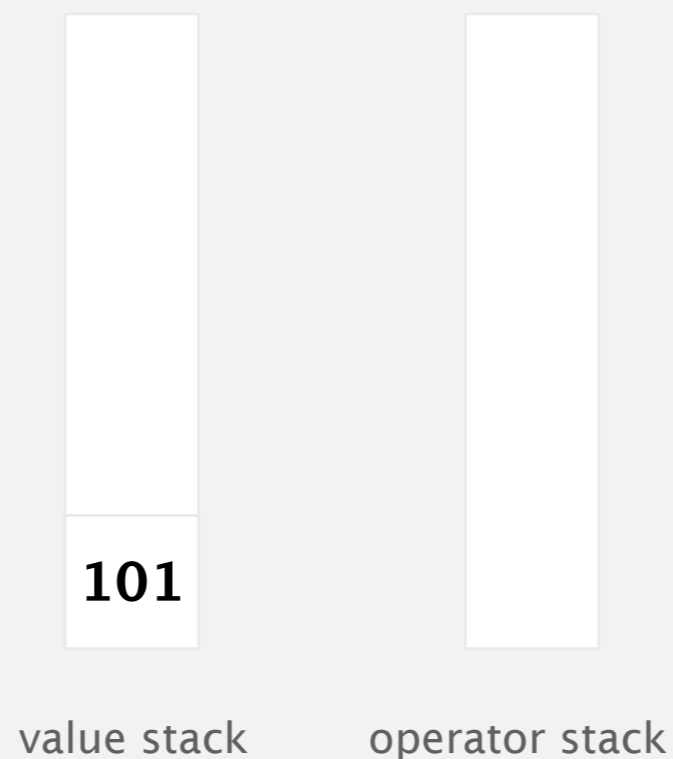
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101

result

(1	+	((2	+	3)	*	(4	*	5)))
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---