

	Walker	Posfix stack	Operator Stack	top operator
1	a	a		
2	*	a	*	
3	b	a b	*	
4	/	ab *	/	
5	(	a b *	/ (	
6	c	a b * c	/ (	
7	-	a b *c	/ ( -	
8	a	a b *c a	/ ( -	
9a	)	a b *c a	/ (	-
9b		a b *c a -	/	(
10	+	a b *c a -/	+	
11	d	a b *c a -/d	+	
12	*	a b *c a -/d	(+) *	
13	e	a b *c a -/d e	(+) *	
14		a b *c a -/d e *	+	
15		a b *c a -/d e * +		

#### 0. Setup walker, post fix stack, operator stack, and top operator.

- The walker iterates the given string and evaluates it as a character to perform the next operation.
  - The post fix stack that is a return value as a post fix notation converted given string.
  - The operator stack saves a operand and pushes to post fix stack following the notation.
  - The top operator is a loop condition to decide when the loop stops to push the operator stack proper times.
- The walker is "a"  
It goes to the postfix stack since it is a variable.
  - The walker is "\*"
    - It goes to the operator stack since the operator stack is empty.
  - The walker is "b"  
It goes to the postfix stack since it is a variable.
  - The walker is "/"
    - It goes to the operator stack and a loop check priority of "\*" and "/".
    - Since the two operands are the same priority, the operator stack pop to the post fix stack and "/" is pushed to the operator stack.
  - The walker is "("
    - It goes to the operator stack since it is "(", it goes to operator stack.
  - The walker is "c"  
It goes to the post fix stack since it is a variable.

7. The walker is “-”

It goes to the operator stack. The loop determines the priority “-” and “(” “-” is a higher priority and it goes to the operator stack without pop.

8. The walker is “a”

It goes to the post fix stack since it is a variable.

9. The walker is “)”

- a. “)” starts iteration to check the current top operand. It pops the operator stack and stores it as the leading operator. Since it is not “(,” the top operator “-” push to post fix stack.
- b. In the second time loop, it pops the operator stack, and it will be “(.” It terminates the circle and goes back to the original string iteration.

10. The walker is “+”

It goes to the operator stack. And it evaluates priority “/” and “+.” Since “/” has higher priority, it pops to post fix stack and “+” is pushed to the operator stack.

11. The walker is “d”

It goes to the post fix stack since it is a variable.

12. The walker is “\*”

It goes to the operator stack and checks priority “+” and “\*.” Since “\*” is a higher priority, “\*” is pushed to the operator stack.

13. The walker is “e”

It goes to the post fix stack since it is a variable.

14. After given string iteration

The next time task is that the method iterates the operator stack, pop, peek the operator, and pushes it to the post fix stack. The current peek “\*,” and it is pushed to the post fix stack.

15. Second iteration of operation stack

The operation stack still has the “+” operation, which pops and pushes “+” to the post fix operator. And the post fix operator is desired notation.

