

Postfix Evaluation

Ex: "24+" = "2+4" = 6

Ex: "32-8*" = "3-2*8" = 8

Algorithm:

create an empty stack to save the result.

Iterate through the expression.

If element X is a number, convert it to an integer.

If element X is an operator, pull out the last two.

elements from the expression and perform the operation

Continue the above steps until you reach end of the expression

Return the top most element from the stack.

```
def Postfix(expression):
```

```
    i = 0
```

```
    operands = []
```

```
    while (i < len(expression)):
```

```
        ele = expression[i]
```

```
        if ele.isalnum():
```

```
            operands.append(int(ele))
```

```
        elif ele in {'+', '-', '/', '*', '^'}:
```

```
            value1 = operands.pop()
```

```
            value2 = operands.pop()
```

```
            value = cal(value1, value2, ele)
```

```
            operands.append(value)
```

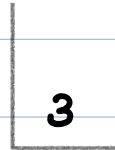
```
        i = i + 1
```

```
    return operands[-1]
```

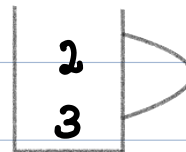
Ex: $'32-8*' = '3-2*8' = 8$

i	ele	stack (operands)
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0	3	
---	---	--



1	2	
---	---	--

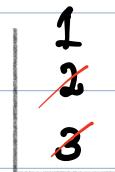


$val2 = operands.pop() = 2$

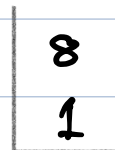
$val1 = operands.pop() = 3$

$val = 3 - 2 = 1$

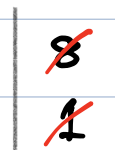
2	-	
---	---	--



3	8	
---	---	--



4	*	
---	---	--



$val2 = operands.pop() = 8$

$val1 = operands.pop() = 1$

$val = 1 * 8 = 8$



Return 8