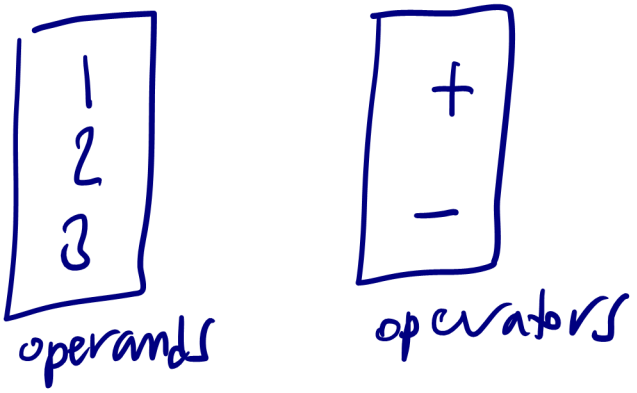
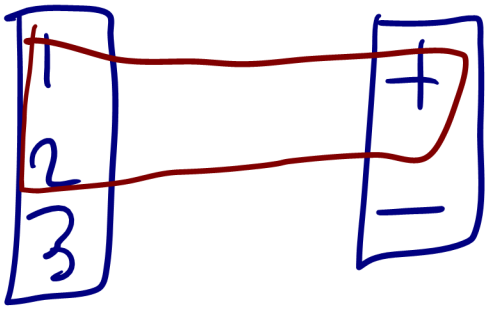
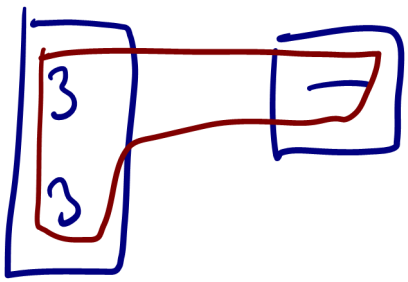
* No parenthesis case:
  1+2-3

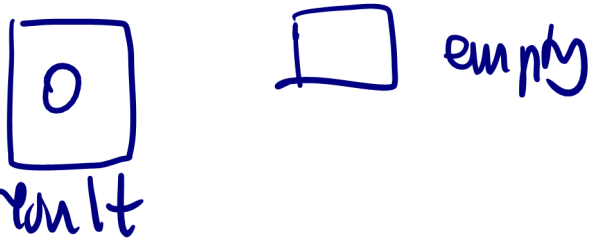


precedence: /, *, +, -

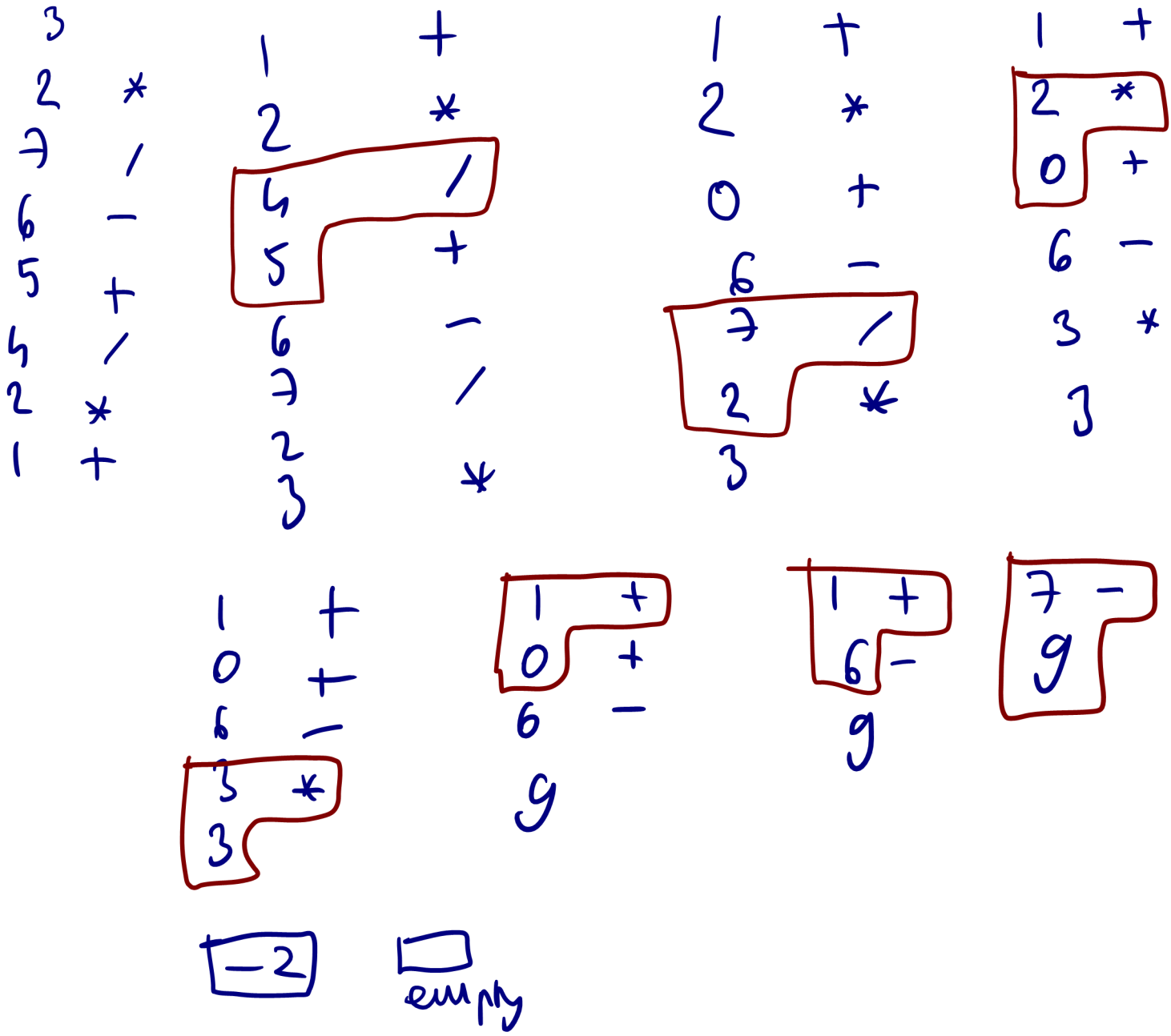
* First evaluate all / in order
* Then evaluate all * in order
  ⋮



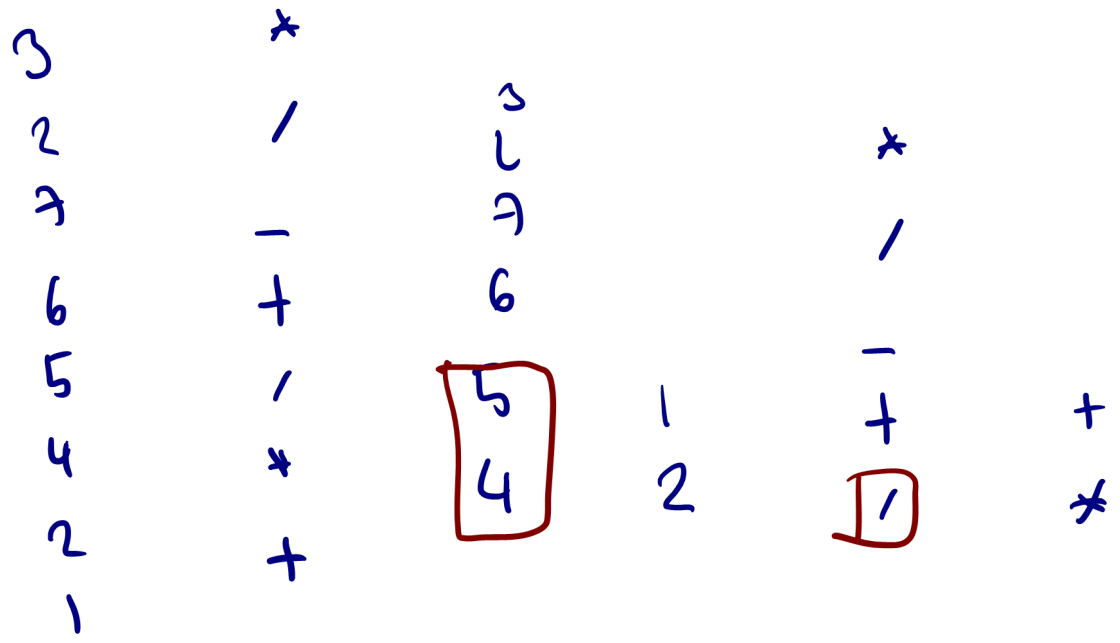


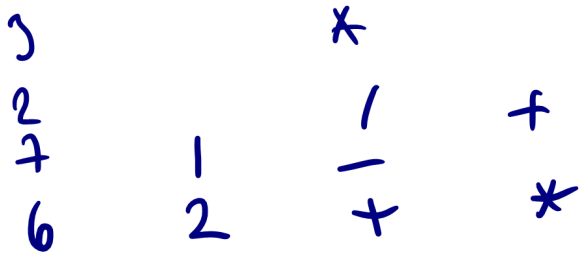


1+2*4/5+6-7/2*3

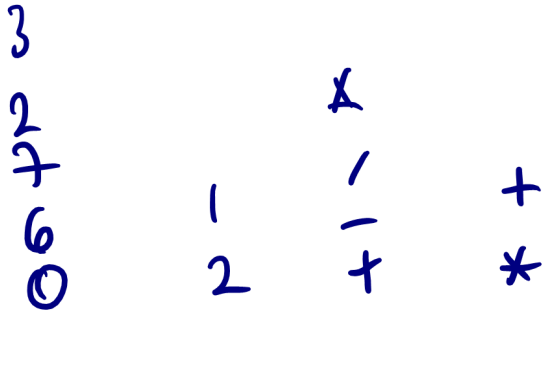

3 2 7 6 5 4 2 1
* / - + / * +
1 2 4 5 6 7 2 3
+ * / + - / *
1 2 0 6 7 2 3
+ * + - / * 3
1 2 0 6 3 3
+ * + - * 3
1 0 6 5 3
+ + - * 3
1 0 6 g
+ + - 3
1 6 g
+ - 3
7 g
- 3
-2
empty

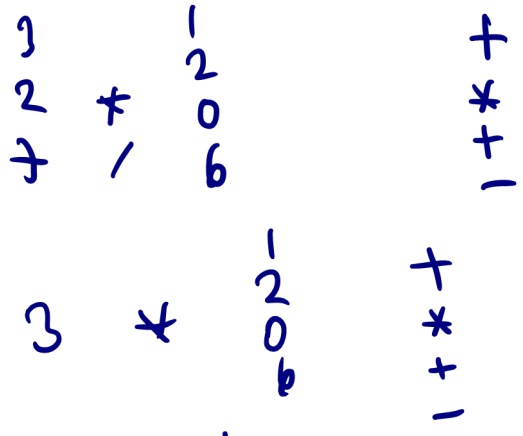
1+2*4/5+6-7/2*3



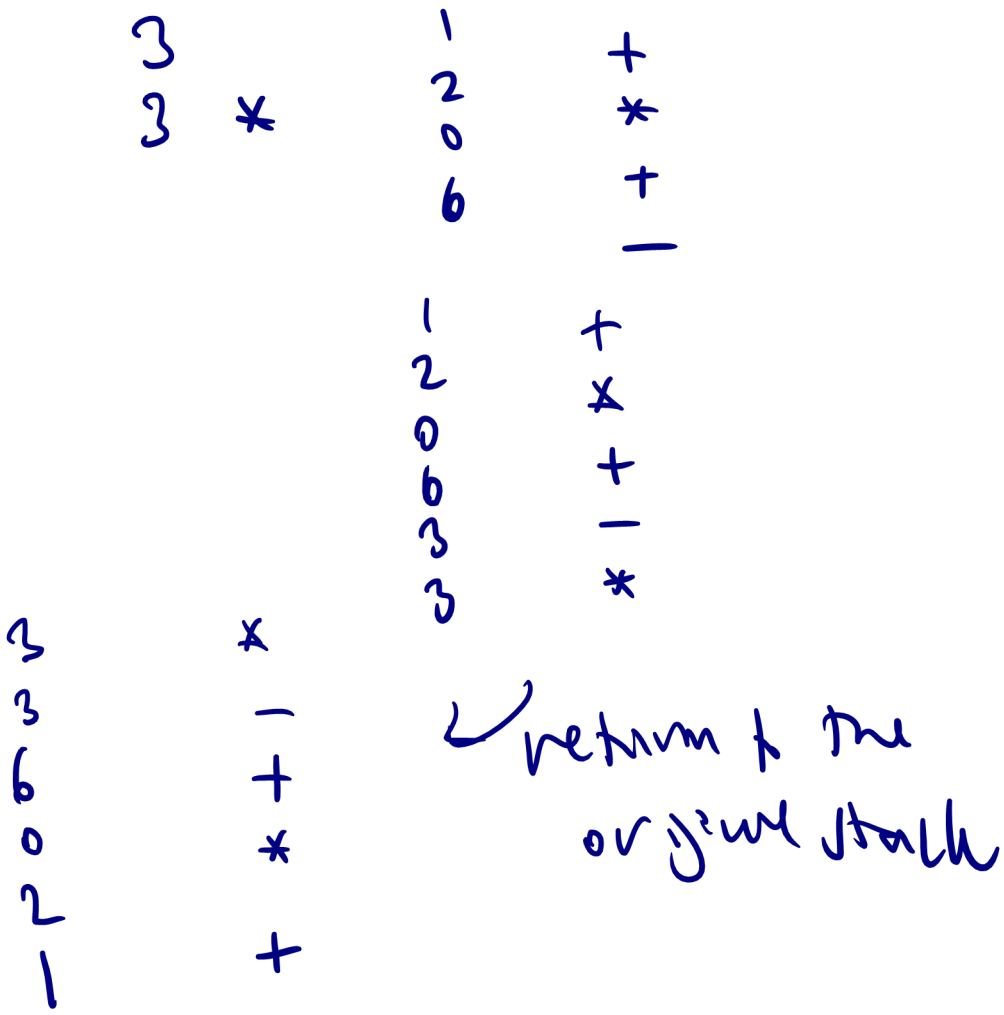


4/5=0





7/2=3


3 3 * 1 2 0 6 + * + −
1 2 0 6 3 3 + * + − *
3 3 6 0 2 1 * − + +
return to the original stack

* Case with parantheses

$$(1+2/3+(3-4))+2$$

* Get Rid of parantheses:

$$\underbrace{(1+2/3+(3-4}_{\text{temp stack}}\ \boxed{)}\underbrace{)+2}_{\text{stack}}$$

$$\underbrace{(1+2/3+}_{\text{temp stack}}\ \text{evaluate } 3-4=-1\ \underbrace{)+2}_{\text{stack}}$$

$$\underbrace{(1+2/3+\ -1}_{\text{temp stack}}\ \boxed{)}\underbrace{+2}_{\text{stack}}$$

$$\underbrace{\emptyset}_{\text{temp stack}}\quad 1+2/3-1 = 0\quad \underbrace{+2}_{\text{stack}}$$

$$\underbrace{0}_{\text{temp stack}}\quad \underbrace{+2}_{\text{stack}}$$

$$\underbrace{0+2}_{\text{stack with no parantheses.}}$$

(1+(1+(2+(3+4/5))))

(1+(1+(2+(3+4/5))))

R=3+4/5 → evaluate "no parameters"

push R

(1+(1+(2+R)))

R=2+R

(1+(1+R))

R=1+R

(1+R)

R=1+R

R

(1+(1+3/(2+3))+(1+2+3)

(1+(1+3/(2+3))+(1+2+3)

R=2+3

(1+(1+3/R))+(1+2+3)

R=1+3/R

(1+R)+(1+2+3)

R=1+R

R+(1+2+3)

R=1+2+3

R+R "no parenthese"