1) a+bc-d

Input	Stack	Output
a	⊔	a
+	+	a
b	+	ab
*	+*	ab
c	+*	abc
-	+	abc*
d	+	abc*d
⊔	⊔	abc*+d-

2) A*B^C+D

A	⊔	A
*	*	A
B	*	AB
^	*^	AB
C	*^	ABC
+	+	ABC^*
D	+	ABC^*D
⊔	⊔	ABC^*D+

postfix to infix :-

AB-DE+F*/

A	—	A
B	-	B
-	A-B	A-B
D	D	D / A-B
E	E	E / D / A-B
+	D+E	D+E / A-B
F	F	F / D+E / A-B
*	(D+E*F)	D+E*F / A-B
/	(A+B)/(D+E*F)	(A+B) / (D+E*F) / A-B

postfix to prefix.

a	a
b	ab
c	abc
*	a(b*c)
d	a(b*c)d
e	a(b*c)de
-	a(b*c)(d-e)
/	a(b*c)/(d-e)
+	(a+(b*c)/(d-e))

Balanced Symbols

(	(	push '('	(
(	((	push '('	((
a	((	append 'a'	((a
+	((	append '+'	((a+
b	((	append 'b'	((a+b
)	(	pop '('	((a+b
*	(*	push '*'	((a+b)*
(	(*(	append '('	((a+b)*(c-
d	(*(	append 'd'	((a+b)*(c-d
)	(*	pop '('	((a+b)*(c-d)
)		pop '('	((a+b)*(c-d))

6)

[	[c]	push 'c'	(c
a	[c]	append 'a'	(ca
+	[c,-1]	push '+'	(a+
b	[c,+]	append 'b'	(a+b
)	[c,+]	pop '('	(a+b)
*	[c,+,*]	push *	(a+b)*
(	[c,*]	append (	(a+b)*(
)	[c]	pop '('	(a+b)*c
-	[c,-]	pop 'c'	(a+b)*c-
d	[c,-]	append	(a+b)*c-d
End		pop remaining operator	(a+b)*c-d