จงแสดงวิธีการแปลง infix เป็น postfix โดยใช้ stack

1. $a+b-c*d/e-f+g*h$

input	stack	output
a	⊔	a
+	[+]	a
b	[+]	ab
-	[-]	ab
c	[-]	abc
*	[-*]	abc
d	[-*]	abcd
/	[-/*]	abcd
e	[-/*]	abcde
-	[-]	abcde/*-+
f	[-]	abcde/*-+f
+	[+]	abcde/*-+f
g	[+]	abcde/*-+fg
*	[+*]	abcde/*-+fg
h	[+*]	abcde/*-+fgh
	⊔	abcde/*-+fgh*+-

2. $a*b-c*d+e-f+g*h$

input	stack	output
a	⊔	a
*	[*]	a
b	[*]	ab
-	[-]	ab
c	[-]	abc
*	[-*]	abc
d	[-*]	abcd
+	[+]	abcd
e	[+]	abcde
-	[-]	abcde+*-*
f	[-]	abcde+*-*f
+	[+]	abcde+*-*f
g	[+]	abcde+*-*fg
*	[+*]	abcde+*-*fg
h	[+*]	abcde+*-*fgh
	⊔	abcde+*-*fgh*+-

3. $a+b*c*d/(e*f)*g+h$

input	stack	output
a	⊔	a
+	[+]	a
b	[+]	ab
*	[+*]	ab
c	[+*]	abc
*	[+*]	abc
d	[+*]	abcd
/	[+/]	abcd
(	[+/(]	abcd/**+
e	[+/(]	abcd/**+e
*	[+/(*]	abcd/**+e
f	[+/(*]	abcd/**+ef
)	[+/(]	abcd/**+ef
*	[+*]	abcd/**+ef*
g	[+*]	abcd/**+ef*g
+	[+]	abcd/**+ef*g
h	[+]	abcd/**+ef*gh
	⊔	abcd/**+ef*gh+*

4. $a+b-(c*d)-e-f+g-h$

input	stack	output
a	⊔	a
+	[+]	a
b	[+]	ab
-	[-]	ab
(	[(]	ab-+
c	[(]	ab-+c
*	[(*]	ab-+c
d	[(*]	ab-+cd
)	[(]	ab-+cd
-	[-]	ab-+cd*
e	[-]	ab-+cd*e
-	[-]	ab-+cd*e
f	[-]	ab-+cd*ef
+	[+]	ab-+cd*ef
g	[+]	ab-+cd*efg
-	[-]	ab-+cd*efg
h	[-]	ab-+cd*efgh
	⊔	ab-+cd*efgh-+--

5. a+(b+c)*d/e+f/g*h

Symbol	Stack	Output
a		a
+	+	a·
(	(	a+
b	(	a+b
+	(+	a+b
c	(	a+bc
)	(	a+bc
*	*	a+bc+
d	*	a+bc+d
/	/	a+bc+d
e	*	a+bc+de
+	+	a+bc+ de
f	*	a+bc+def
/		a+bc+def
g		a+bc+defg
*		a+bc+defg
h		a+bc+defgh
		a+bc+defgh*/+/*

6. a/b*c*d *(e-f)+g^h

Symbol	Stack	Output
a		a
/	/	a
b	/	ab
*	*	ab
c	*	abc
*	*	abc
d	*	abcd
*	*	abcd
(	(	abcd***/
e	(	abcd***/e
-	(-	abcd***/e
f	(-	abcd***/ef
)	(	abcd***/ef
+	+	abcd***/ef-
g	+	abcd***/ef-g
^	+^	abcd***/ef-g
h	+^	abcd***/ef-gh
		abcd*** /ef-gh^+

7. (a^b)/c*d/e-f+g+h

Symbol	Stack	Output
(	(	
a	(	a
^	(^	a
b	(^	ab
)	(	ab
/	/	ab^
c	/	ab^c
*	*	ab^c
d	*	ab^cd
/	/	ab^cd
e	/	ab^cde
-	-	ab^cde/*/
f	-	ab^cde/*lf
+	±	ab^cde/*/f
g	+	ab^cde/*/fg
+	±	ab^cde/*/fg
h	±	ab^cde/*/fgh
		ab^cde/*/fgh++-

8. a*b^c*((d-e)-f)*g-h

Symbol	Stack	Output
a		a
*	*	a
b	*	ab
^	*^	ab
c	*^	abc
*	*^	abc
(	(	abc*^*
(	(	abc*^*
d	(	abc*^*d
-	(-	abc*^*d
e	(-	abc*^*de
)	(	abc*^*de
-	-	abc*^*de-
f	-	abc*^*de-f
)		abc*^*de-f
*	*	abc*^*de-f-
g	*	abc*^*de-f-g
-	-	abc*^*de-f-g
h	*	abc*^*de-f-gh
		abc*^*de-f-gh*-*

9. a+b-c^((d-e)-f)*(g-h)   **10.** a/(b+c)*(d+(e+f))^g+h

Input	Stack	Output
a	⌴	a
+	|+|	a
b	|+|	ab
−	|−|	ab
c	|−|	abc
^	|^−|	abc
(	|(|	abc^=+
(	|(|	abc^=+
d	|(|	abc^−+d
−	|−(|	abc^−+d
e	|−(|	abc^−+de
)	|(|	abc^−+de
−	|−|	abc^−+de−
f	|−|	abc^−+de−f
)	|−|	abc^−+de−f
*	|*|	abc^−+de−f−
(	|(|	abc^−+de−f*
g	|(|	abc^−+de−f*g
−	|−(|	abc^−+de−f*g
h	|−(|	abc^−+de−f*gh
)	|−|	abc^−+de−f*gh
	⌴	abc^−+de−f*gh−

Input	Stack	Output
a	⌴	a
/	|/|	a
(	|(|	a
b	|(|	ab
+	|+(|	ab
c	|+(|	abc
)	|/|	abc+/
*	|*|	abc
(	|(|	abc*+/
d	|(|	abc*+/d
+	|+(|	abc*+/d
(	|+(|	abc*+/d
e	|+(|	abc*+/de
+	|+(|	abc*+/de
f	|+(|	abc*+/def
)	|+(|	abc*+/def
)	|*|	abc*+/def
^	|^|	abc*+/def++
g	|^|	abc*+/def++g
+	|+|	abc*+/def++g
h	|+|	abc*+/def++gh
	⌴	abc*+/def++gh+^