งานมอบหมายชิ้นที่ 6

จงแสดงวิธีการแปลง infix เป็น postfix โดยใช้ stack

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

symbol	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

symbol	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

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+*

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

symbol	stack	output
a	[ ]	a
+	[+]	a
b	[+]	ab
-	[-]	ab
(	[( ]	ab-+
c	[( ]	abc
*	[(*]	abc
d	[(*]	abcd
)	[?]	abcd
-	[-]	abcd*
e	[-]	abcd*e
-	[-]	abcd*e
f	[-]	abcd*ef
+	[+]	abcd*ef
g	[+]	abcd*efg
-	[-]	abcd*efg
h	[-]	abcd*efgh
	[ ]	abcd*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/*/f
+	+	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. $a + b - c \wedge ((d-e)-f)*(g-h)$

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-

10. $a/(b+c)*(d+(e+f)) \wedge g + h$

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+^