งานของนายธันวาที่ 6

จงแสดงวิธีการแปลง infix เป็น postfix โดยใช้ stack

1.3 $a+b-c*d/e-f+g*h$

อินพุต	Stack	Output
a		a
+	+	a
b	+	ab
-	-	ab+
c	-	ab+c
*	*	ab+c
d	*	ab+cd
/	/	ab+cd*
e	/	ab+cd*e
-	-	ab+cd*e/-
f	-	ab+cd*e/-f
+	+	ab+cd*e/-f-
g	+	ab+cd*e/-f-g
*	*, +	ab+cd*e/-f-g
h	*, +	ab+cd*e/-f-gh
	+	ab+cd*e/ef-gh*
		ab+cd*e/ef-gh*+

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*+-

3.7 $a+b*c*d/(e*f)*g+h$

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

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 - + - -

57 a+(b+c)*2/e+f/g*h

a	$\cup$	a
+	+	a
(	(	a+
b	(	a+b
+	+(	a+b
c	+(	a+bc
)	+(	a+bc
*	*	a+bc+
2	*	a+bc+2
/	/*	a+bc+2
e	/*	a+bc+2e
+	+/*	a+be+2e
f	+/*	a+be+2ef
/	+/*	a+be+2ef
g	+/*	a+be+2efg
*	*/+/*	a+be+2efg
h	*/+/*	a+be+2efgh
	$\cup$	a+be+2efgh*/+/*

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

token	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) $(a \wedge b)|c * d/e - f + g + h$

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* ((2-e)-f)*g-h

Input	Stack	Output
a	∪	a
*	(*)	^
b	(*)	ab
^	(^*)	ab
c	(^*)	abc
*	(*^*)	abc
(	((	abc*^*
(	(((	abc*^*
2	(((	abc*^*2
-	((-(	abc*^*2
e	((-(	abc*^*2e
)	(((	abc*^*2e
-	((-(	abc*^*2e-
f	((-(	abc*^*2e-f
)	(?-(	abc*^*2e-f
*	(*)	abc*^*2e-f-
g	(*)	abc*^*2e-f-g
-	(-*)	abc*^*2e-f-g
h	(-*)	abc*^*2e-f-gh
	∪	abc*^*2e-f-gh-*

9) $a + b - c \verb|^| ((d-e)-f)*(g-h)$

Symbol	Stack	Output
a	U	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
	U	abc^-+de-f-*gh-

10) a/(b+c) * (d+(e+f)]^g+h

Symbol	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+