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Convert (a –b)/c*(d + e – f / g) to prefix

Algorithm

1. Convert the infix to postfix by using stack
2. Inverse postfix

Priority

‘+’ ‘-‘ = 1

‘*’ ‘/’ = 2

Convert the infix to postfix by using stack

Expression	Stack	Output	Comment
(a –b)/c*(d + e – f / g)	null		Initial
a-b)/c*(d + e – f / g)	(		Push ‘(‘
-b)/c*(d + e – f / g)	(	a	Keep ‘a’ into output
b)/c*(d + e – f / g)	(-	a	Push ‘-‘
)/c*(d + e – f / g)	(-	ab	Keep ‘b’ into output
/ c*(d + e – f / g)		ab-	Pop and keep to output
c*(d + e – f / g)	/		Push ‘/‘
*(d + e – f / g)	/	ab-c	Keep ‘c’ into output
*(d + e – f / g)		ab-c/	Pop
(d + e – f / g)	*	ab-c/	Push ‘*‘
d + e – f / g)	*(	ab-c/	Push ‘(’
+ e – f / g)	*(	ab-c/d	Keep ‘d’ into output
e – f / g)	*(+	ab-c/d	Push
– f / g)	*(+	ab-c/de	Keep ‘e’ into output
- f / g)	*(	ab-c/de+	Pop
f / g)	*(-	ab-c/de+	Push
/ g)	*(-	ab-c/de+f	Keep ‘f’ into output
g)	*(-/	ab-c/de+f	Push
)	*(-/	ab-c/de+fg	Pop all
		ab-c/de+fg/-*	Finish

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Inverse postfix

The postfix is ab-c/de+fg/-*

The prefix is *-/gf+ed/c-ba

Answer

The prefix of (a –b)/c*(d + e – f / g) is ***-/gf+ed/c-ba**