

Converting Parenthesized Infix To Postfix

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$$A * (B + C / D) - E$$

$$A * (B + CD /) - E$$

$$A * BCD / + - E$$

$$ABCD / + * - E$$

$$ABCD / + * E -$$

$$A \$ (B + C * D) / (E - F / G)$$

$$A \$ (B + CD *) / (E - F / G)$$

$$A \$ BCD * + / (E - F / G)$$

$$A \$ BCD * + / (E - FG /)$$

$$A \$ BCD * + / EFG / -$$

$$ABCD * + \$ / EFG / -$$

$$ABCD * + \$ EFG / -$$

$$A * (B + C / D) - E$$

<u>Ele</u>	<u>Stack</u>	<u>Postfix</u>	<u>Ele</u>	<u>Stack</u>	<u>Postfix</u>
A		A	/	*, (, +, /	AB C
*	*	A	D	*, (, +, /,	AB C D
(	*, (	A	)	*	AB C D / +
B	*, (	AB	-	-	AB C D / + *
+	*, (, +	AB	E	-	AB C D / + * E
C	*, (, +	AB C	end	empty	AB C D / + * E -

$$A \$ (B + C * D) / (E - F / G)$$

<u>Ele</u>	<u>Stack</u>	<u>Postfix</u>	<u>Ele</u>	<u>Stack</u>	<u>Postfix</u>
A		A	)	\$	AB C D * +
\$	\$	A	/	/	AB C D * + \$
(	\$, (	A	(	/, (	AB C D * + \$
B	\$, (	AB	E	/, (	AB C D * + \$ E
+	\$, (, +	AB	-	/, (, -	AB C D * + \$ E
C	\$, (, +	AB C	F	/, (, -	AB C D * + \$ E F
*	\$(, +, *	AB C	/	/, (, -, /	AB C D * + \$ E F
D	\$(, +, *	AB C D	G	/, (, -, /	AB C D * + \$ E F G
			)	/	AB C D * + \$ E F G / -
			end	empty	AB C D * + \$ E F G / - /

Algorithm For Converting Parenthesized Infix To Postfix

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1. Scan the given INFIX expression left to right one character at a time and proceed in usual way until an opening bracket arrives.
2. As soon as an opening bracket arrives , PUSH it in the STACK.
3. Also PUSH the first operator which arrives after the opening bracket.
4. Again proceed normally until a closing bracket arrives.
5. As soon as a closing bracket arrives do the following:
 - a. POP all the operators from the STACK upto opening bracket.
 - b. Copy all the operators in the POSTFIX array except opening bracket.
 - c. Discard both the brackets, means , neither opening bracket should be copied in the POSTFIX array nor the closing bracket should be PUSHED in the STACK.
6. Again proceed normally and if an opening bracket arrives again then goto step 2.
7. Repeat the above process until the INFIX expression ends.
8. POP the remaining operators from the STACK and copy them in the POSTFIX array one by one.