

## Infix to Postfix Conversion

To convert Infix Expression into Postfix Expression using a stack data structure, Read all the symbols one by one from left to right in the given Infix Expression.

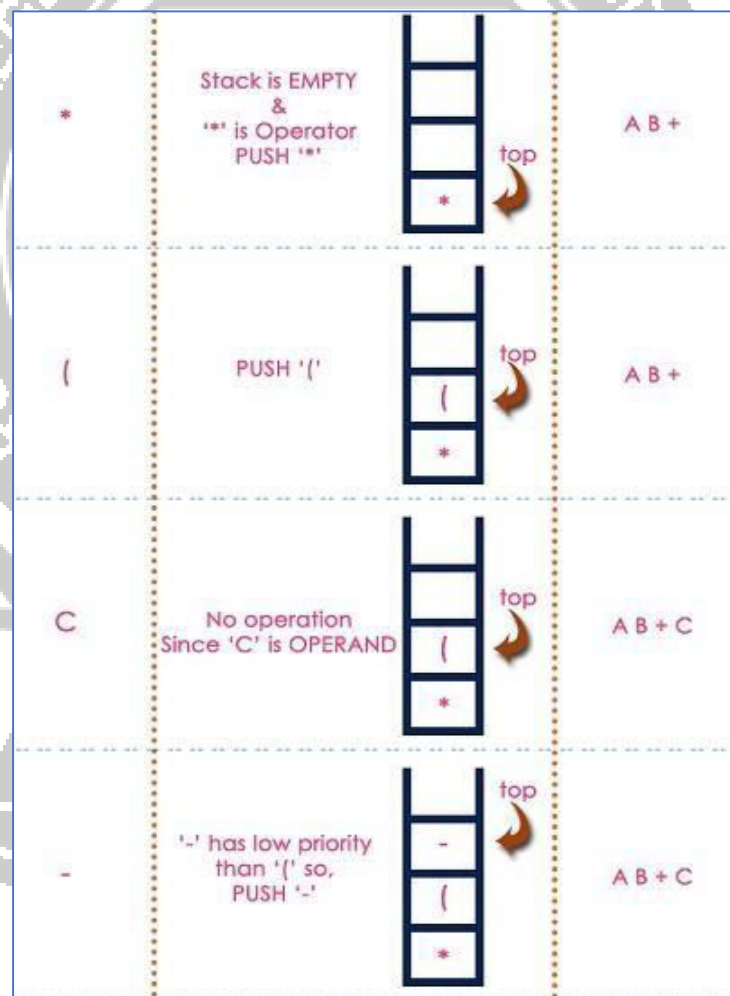
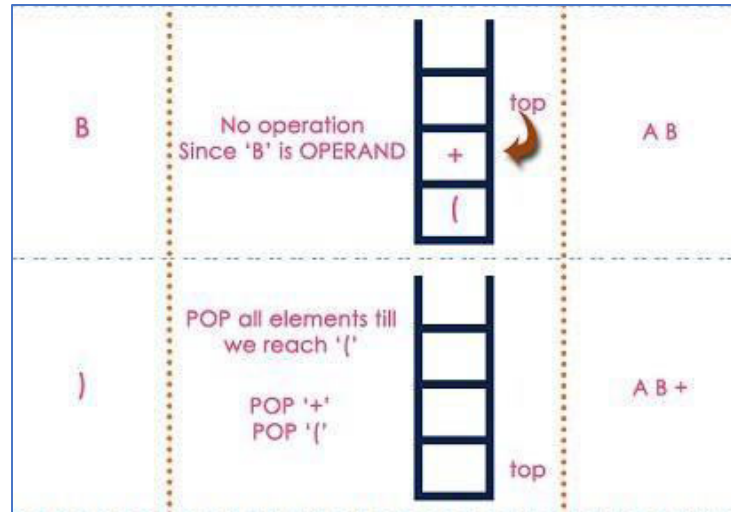
1. If the reading symbol is operand, then directly print it to the result (Output).
2. If the reading symbol is left parenthesis '(', then Push it on to the Stack.
3. If the reading symbol is right parenthesis ')', then Pop all the contents of stack until respective left parenthesis is popped and print each popped symbol to the result.
4. If the reading symbol is operator (+, -, \*, / etc.), then Push it on to the Stack. However, first pop the operators which are already on the stack that have higher or equal precedence than current operator and print them to the result.

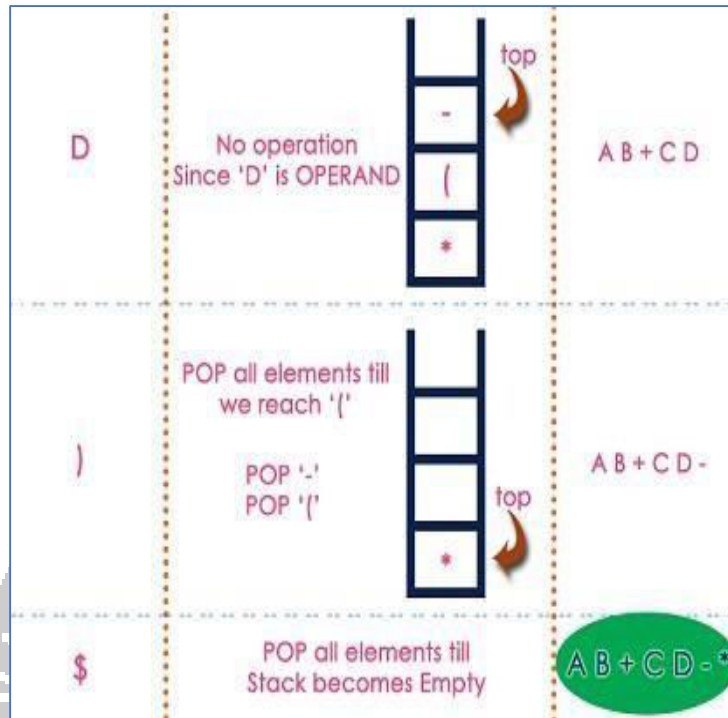
### Example

Consider the following Infix Expression...  $(A + B) * (C - D)$

The given infix expression can be converted into postfix expression using Stack data Structure as follows...

Reading Character	STACK	Postfix Expression
Initially	Stack is EMPTY	EMPTY
(	Push '('	EMPTY
A	No operation Since 'A' is OPERAND	A
+	'+' has low priority than '(' so, PUSH '+'	A





The final Postfix Expression is as follows...  $AB+CD-*$

