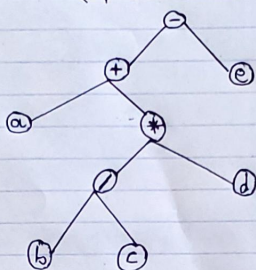


- 1) Convert the following expression into an expression tree using a stack and show the process:-
 $a + b / c * d - e$

Solution:

Token	Operator Stack	Postfix
a	-	a
+	+	a
b	+	ab
/	+/	ab
c	+/	abc
*	+*	abc/
d	+*	abc/d
-	-	abc/d*+
e	-	abc/d*+e
		abc/d*+e-

Expression tree



- 2) Convert $a + b / c * d - e$ to postfix expression; by the solution:

By hand method:

$a + b / c * d - e$

$a + b / d * - e$

$abc / d * + - e$

$abc / d * + e -$

$abc / d * + e -$

- 3) Convert the prefix expression $+ a * b c$ to an infix using a stack.

Solution:

Token	stack	infix
c	c	
b	cb	
*		$b * c$
a	$(b * c)a$	
+		$a + (b * c)$
		$a + (b * c)$