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a) Convert the pollowing expression into an expression tree using a stack and show the process:

$a + b / c * d - e.$

~~Incoming Token~~ stock ~~Stacked~~
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step 1; Parenthesize the expression based on operator priority.

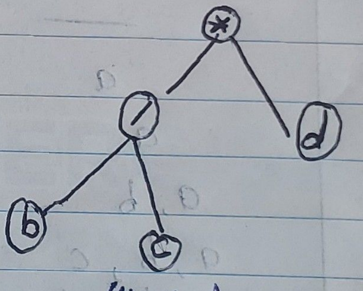
- Division (/) and multiplication (*) have higher priority than addition (+) and subtraction (-) and are evaluated from left to right.

Paranthesize the expression;

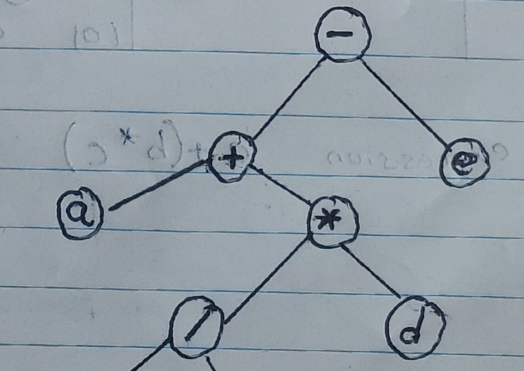
$((a + ((b/c) * d)) - e)$

Step 2; Build the tree from innermost expression outward.

First construct b/c
then suberpression $(b/c) * d$.



Now add $a + ((b/c) + d)$ and finally subtract e from the whole expression.



Final postfix Expression abc/d*+e-

Convert into infix using stack.

+a*bc.

Prefix expression	stack	Action.
+a*bc	—	Read operotor(+)
a*bc	a	Push operand (a) onto stack
*bc	a	Read operator (*)
bc	a, b	Push operand (b)
c	a, b, c	Push operand (c)
—	a, (b*c)	Apply (*) to be and c
—	(a + (b*c))	Apply (+) operotor to (a) and (b*c)

Final infix expression a+(b*c)