

SCT 222-0472/2023

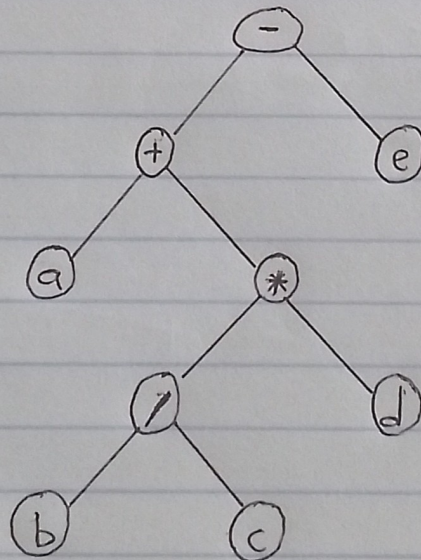
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Data Structures and Algorithms

1.  $a + b/c * d - e$   $\longrightarrow$  postfix using a stack.

| Taken | Stack | Postfix         |
|-------|-------|-----------------|
| a     |       | a               |
| +     | +     | a               |
| b     | +     | ab              |
| /     | + /   | ab              |
| c     | + /   | abc             |
| *     | + *   | abc /           |
| d     | + *   | abc / d         |
| -     | -     | abc / d * +     |
| e     | -     | abc / d * + e   |
|       |       | abc / d * + e - |

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



2. Convert  $a + b/c * d - e$  to postfix expression.

By hand :  $a + b/c * d - e$

$a + bc / d * - e$

$abc / d * + - e$

$abc / d * + e -$