

Pseudocode to convert infix expression to postfix

Input: Infix expression (infix)

Output: Postfix expression (postfix)

Initialize **postfix** \leftarrow "", **stack** \leftarrow empty stack

Get next **symbol** from **infix**

 If **symbol** is an operand

 Append **symbol** to **postfix**

 If **symbol** is '('

 Push **symbol** on the **stack**

 If **symbol** is ')'

 While top of **stack** is not '('

 Pop **operator** from **stack**

 Append to **postfix**

 Pop the '(' from the **stack** and discard it

 If **symbol** is an operator

 While top of **stack** is not '('

 Pop **operator** from **stack**

 If popped **operator** has higher precedence than **symbol**

 Append operator to **postfix**

 Else

 Push **operator** back on to **stack**

 Push **symbol** on to **stack**

 Break

 Push **symbol** on to **stack**

 If **symbol** is a ';' ,

 Exit from the loop

While **stack** is not empty

 Pop **operator** from **stack**

 Append to **postfix**

Pseudocode to evaluate a postfix expression

Input: Postfix expression (`postfix`)

Output: Evaluation of the expression (`result`)

Initialize `result` \leftarrow 0, `stack` \leftarrow empty stack

Get next `symbol` from `postfix`

 If `symbol` is a number

 Push `symbol` on the `stack`

 If `symbol` is an operator

 Pop `n1` from `stack`

 Pop `n2` from `stack`

 Compute `res = n1 operator n2`

 Push `res` on to `stack`

While `stack` is not empty

 Pop `result` from `stack`