

# Prefix Evaluation

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1) Start scanning the prefix expression from right to left

Prefix exp : +-+59\*4-8/62\$1-73

2) If current element is an operand

Push it onto the stack

Else

If current element is an operator

- Pop two elements (operands) from the stack.
- 1st popped element will be 1st operand : op1
- 2nd popped element will be 2nd operand : op2
- Perform cur element operation between op1 and op2
- Result = op1 opr op2
- Push back result onto the stack

Current element : -

Op1 :

Op2 :

Result : =

Result = -5

3) Repeat the above steps till end of prefix exp

4) Pop final result from the stack.

Stack


Infix Expression :

5+9-4\*(8-6/2)+1\$(7-3)

$$\begin{array}{ccccccc} \textcircled{6} & & \textcircled{7} & \textcircled{5} & \textcircled{2} & \textcircled{1} & \textcircled{8} & \textcircled{4} & \textcircled{3} \\ 5 + 9 - 4 * ( 8 - 6 / 2 ) + 1 \$ ( 7 - 3 ) \end{array}$$

$$5 + 9 - 4 * ( 8 - \underline{6/2} ) + 1 \$ ( 7 - 3 )$$

$$5 + 9 - 4 * \underline{-8/62} + 1 \$ \underline{-73}$$

$$5 + 9 - \underline{4} * \underline{-8/62} + \underline{1 \$ 1-73}$$

$$5 + 9 - \underline{*4-8/62} + \underline{1-73}$$

$$\underline{+59} - \underline{*4-8/62} + \underline{1-73}$$

$$\underline{-+59*4-8/62} + \underline{1-73}$$

$$\underline{+-+59*4-8/62\$1-73}$$

+-+59\*4-8/62\$1-73