# Infix to prefix algorithm

1) start scanning from <u>right to left</u>
2) If(current element is an operand)

    Append it to the prefix expression

Else

    // If(current element is an operator)

While(stack is not empty  &&  priority of topmost element >
priority of current element)

    {

        Pop element from the stack and append it to prefix
expression

    }

        Push current element onto the stack.

3) Repeat the above steps till end of infix expression
4) Pop all the remaining elements from the stack one by one
and append them to prefix expression
5) Reverse the prefix expression

Infix expression:
5*3/2*6/4+7-3+8/2

Current element :

Prefix Expression: 28/3746235*/*/+-+

Reverse: +-+/*/*5326473/82

Stack :

$$+-+/*/*5326473/82$$

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5*3/2*6/4+7-3+8/2

① ② ③ ④ ⑥ ⑦⑧ ⑤

5 * 3 / 2 * 6 / 4 + 7 - 3 + 8 / 2

*53 / 2 *6 / 4 + 7 - 3 + 8 / 2

/ *532 * 6 / 4 + 7 - 3 + 8 / 2

* / *5326 / 4 + 7 - 3 + 8 / 2

/ * / *53264 + 7 - 3 + 8 / 2

/ * / *53264 + 7 - 3 + /82

+ / * / *532647 - 3 + /82

- + / * / *5326473 + /82

+ - + / * / *5326473 /82 ⟶ output