Stack Applications

Infix to postfix conversion

Priorities:
()
$
* / %
+ -

Expression: combination of operator(s) and operands

Operator : the mathematical operation to be performed eg + - * /

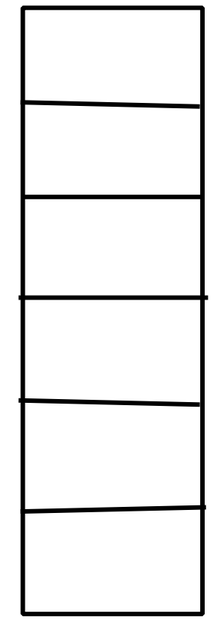
Operands : the values on which we perform the operations eg a, b, 1, 2, 3

Types of Expression:

1. Infix : a + b -> human
2. Prefix : + a b -> computer
3. Postfix : a b + -> computer

Infix Expression : a * b / c * d + e - f * h + i

Postfix Expression : a b * c / d * e + f h * - i +

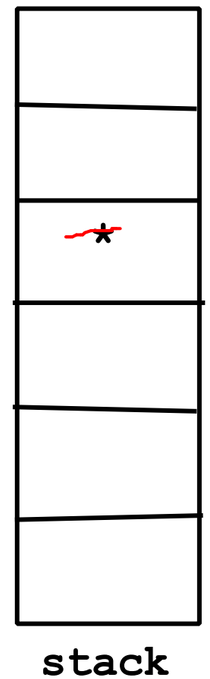


stack

Stack Applications
Infix to prefix conversion

Priorities:
()
$
* / %
+ -

Infix Expression : a * b / c * d + e - f * h + i



Expression : i h f * e d c b a * / * + - + +
Prefix Expression : + - + * / * a b c d e * f h i

Stack Applications
Infix to postfix and prefix conversion

Infix Expression :
a * b / c * d + e – f * h + i
  1   2   3   5   6   4   7
Postfix Expression:
a b * / c * d + e – f * h + i
a b * c / * d + e – f * h + i
a b * c / d * + e – f * h + i
a b * c / d * + e – f h * + i
a b * c / d * e + – f h * + i
a b * c / d * e + f h * – + i

a b * c / d * e + f h * – i +

Infix Expression :
a * b / c * d + e – f * h + i
  1   2   3   5   6   4   7
Prefix Expression:
* a b / c * d + e – f * h + i
* / * a b c d + e – f * h + i
* / * a b c d + e – * f h + i
+ * / * a b c d e – * f h + i
- + * / * a b c d e * f h + i

+ - + * / * a b c d e * f h i

Stack Applications
Infix to postfix and prefix conversion

Infix Expression :

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

Postfix Expression:

1 9 $ 3 4 * + 6 8 2 / + - 5 +

Infix Expression :

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

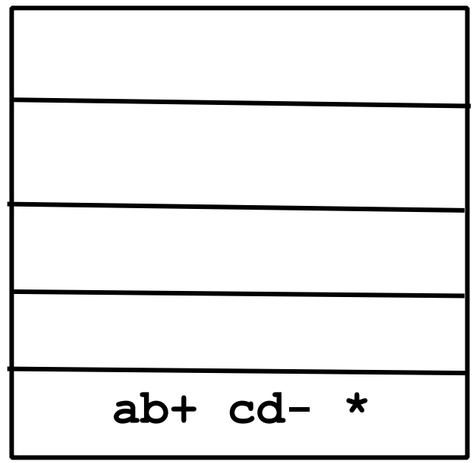
Prefix Expression:

+ - + $ 1 9 * 3 4 + 6 / 8 2 5

Stack Applications
Prefix to postfix conversion

Prefix Expression : * + a b - c d

Postfix Expression : a b + c d - *



Stack

Stack Applications
Postfix to Infix conversion

Postfix Expression : a b c - + d e – f g – h + / *

Infix: ((a + (b - c)) * ((d - e)/ ((f - g) + h)))