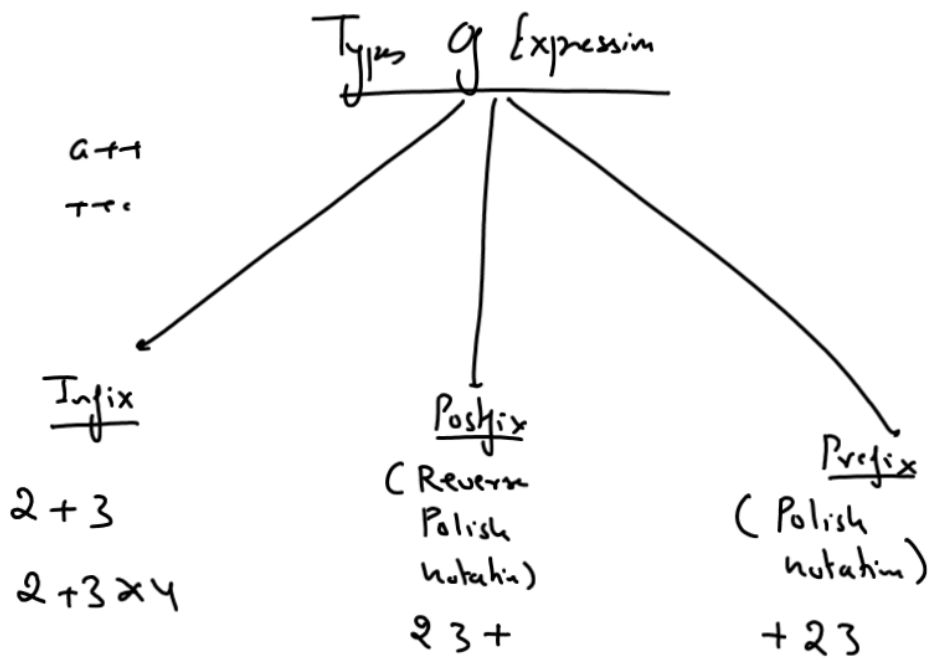4. Programmer's use STACK for implementing many popular algorithms
in data structures like:
  a. Tree Traversal Algorithms (Inorder, Preorder,Postorder)
  b. Graph Traversal Algorithm(DFS)
  c. Many sorting & searching algorithms

5. Stack is also used by compilers internally for converting an expression
from INFIX form to POSTFIX or PREFIX form

Expression

For ex :   2 + 3

            a > b

            x = y

Types of Expression

a+1

T+c

Infix

2 + 3

2 + 3 × 4

Postfix
(Reverse Polish notation)

2 3 +

Prefix
(Polish notation)

+ 2 3

Converting Infix To Postfix

① ( )

② $ a ↑ a ^

③ / * ./

④ + -

Infix

$A + B * C$

$A + BC*$

Postfix

$ABC* +$

Infix

$A + B * C / D - E$

$A + BC* / D - E$

$A + BC*D/ - E$

$ABC*D/ + - E$

Postfix

$ABC*D/ + E -$

Infix

A \$ B / C - D * E / F + G

A B \$ / C - D * E / F + G

A B \$ C / - D * E / F + G

A B \$ C / - D E * / F + G

A B \$ C / - D E * F / + G

A B \$ C / D E * F / - + G

Postfix   A B \$ C / D E * F / - G +

Infix To Prefix

Infix   A + B * C

          A + * B C

Prefix   + A * B C

Infix $(A) + (B) * (C) / (D) - (E)$

$(A) + (* B C) / (D) - (E)$

$(A) + (/ * B C D) - (E)$

$(+ A / * B C D) - (E)$

Prefix $- + A / * B C D E$

opnd opnd opn