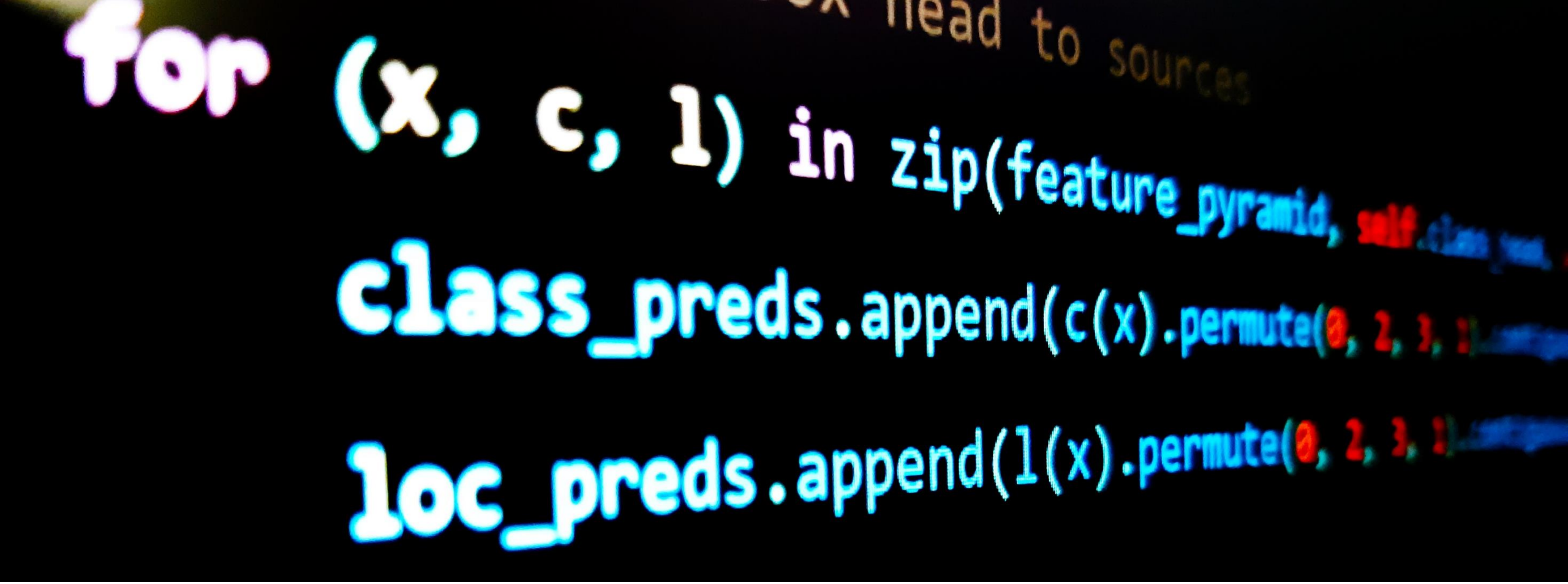



# INFIX TO PREFIX

CCDSALG T2 AY 2020-2021

# INFIX TO PREFIX

- Reverse the infix expression
  - Infix: $1 + 2 * 3 + 4$
  - Reversed infix: $4 + 3 * 2 + 1$
- Convert the reversed infix expression to postfix
  - Reversed infix: $4 + 3 * 2 + 1$
  - Postfix: $4\ 3\ 2 * 1 + +$
- Reverse the postfix expression to get the prefix expression
  - Postfix: $4\ 3\ 2 * 1 + +$
  - Prefix: $+ + 1 * 2\ 3\ 4$

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed:

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack:

Output: $4$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+$

Output: $4$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+$

Output: $4\ 3$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+ \ *$

Output: $4\ 3$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+ \ *$

Output: $4\ 3\ 2$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+$

Output: $4\ 3\ 2\ *$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+ +$

Output: $4\ 3\ 2\ *$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+ +$

Output: $4\ 3\ 2 * 1$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack: $+$

Output: $4\ 3\ 2 * 1 +$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack:

Output: $4\ 3\ 2 * 1 + +$

Prefix:

# INFIX TO PREFIX

**Example 1:**

Infix: $1 + 2 * 3 + 4$

Reversed: $4 + 3 * 2 + 1$

Stack:

Output: $4\ 3\ 2 * 1 + +$

Prefix: $+ + 1 * 2\ 3\ 4$

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed:

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: (

Output:

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: (

Output: 7

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $( +$

Output: $7$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $( +$

Output: $7\ 84$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $($

Output: $7\ 84\ +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack:

Output: $7\ 84\ +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/$

Output: $7\ 84\ +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/($

Output: $7\ 84\ +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/($

Output: $7\ 84 + 21$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/(-$

Output: $7\ 84 + 21$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/(-$

Output: $7\ 84 + 21\ 43$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/($

Output: $7\ 84 + 21\ 43 -$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/$

Output: $7\ 84 + 21\ 43 -$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/*$

Output: $7\ 84 + 21\ 43 -$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/* ($

Output: $7\ 84 + 21\ 43 -$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/* ($

Output: $7\ 84 + 21\ 43 - 23$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/* (+$

Output: $7\ 84 + 21\ 43 - 23$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/* (+$

Output: $7\ 84 + 21\ 43 - 23\ 300$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/* ($

Output: $7\ 84 + 21\ 43 - 23\ 300 +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/*$

Output: $7\ 84 + 21\ 43 - 23\ 300 +$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack: $/$

Output: $7\ 84 + 21\ 43 - 23\ 300 + *$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack:

Output: $7\ 84 + 21\ 43 - 23\ 300 + */$

Prefix:

# INFIX TO PREFIX

**Example 2:**

Infix: $(300 + 23) * (43 - 21) / (84 + 7)$

Reversed: $(7 + 84)/(21 - 43) * (23 + 300)$

Stack:

Output: $7\ 84 + 21\ 43 - 23\ 300 + */$

Prefix: $/ * + 300\ 23 - \ 43\ 21\ +\ 84\ 7$

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed:

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack:

Output:

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: (

Output:

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: ((

Output:

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(($

Output: $2$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $((+$

Output: $2$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $((+$

Output: $2\ 2$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(($

Output: $2\ 2\ +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $($

Output: $2\ 2\ +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(*$

Output: $2\ 2\ +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(* ($

Output: $2\ 2 +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(* ($

Output: $2\ 2 + 2$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(* (-$

Output: $2\ 2 + 2$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(* (-$

Output: $2\ 2 + 2\ 3$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(* \ ($

Output: $2\ 2 + 2\ 3\ -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $(*$

Output: $2\ 2 + 2\ 3\ -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $($

Output: $2\ 2 + 2\ 3\ - *$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack:

Output: $2\ 2 + 2\ 3\ - *$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/$

Output: $2\ 2 + 2\ 3\ - *$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/($

Output: $2\ 2 + 2\ 3\ - *$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/($

Output: $2\ 2 + 2\ 3\ - * 5$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/(-$

Output: $2\ 2 + 2\ 3\ - * 5$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/(-$

Output: $2\ 2 + 2\ 3\ - * 5\ 6$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/($

Output: $2\ 2 + 2\ 3\ - * 5\ 6 -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/*$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/* ($

Output: $2\ 2 + 2\ 3\ - * 5\ 6 -$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/* \ ($

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/* (+$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/* (+$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/* ($

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4 +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/*$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4 +$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack: $/$

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4 + *$

Prefix:

# INFIX TO PREFIX

**Example 3:**

Infix: $(4 + 8) * (6 - 5) / \big((3 - 2) * (2 + 2)\big)$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack:

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4 + * /$

Prefix:

# INFIX TO PREFIX

**Example 3:**

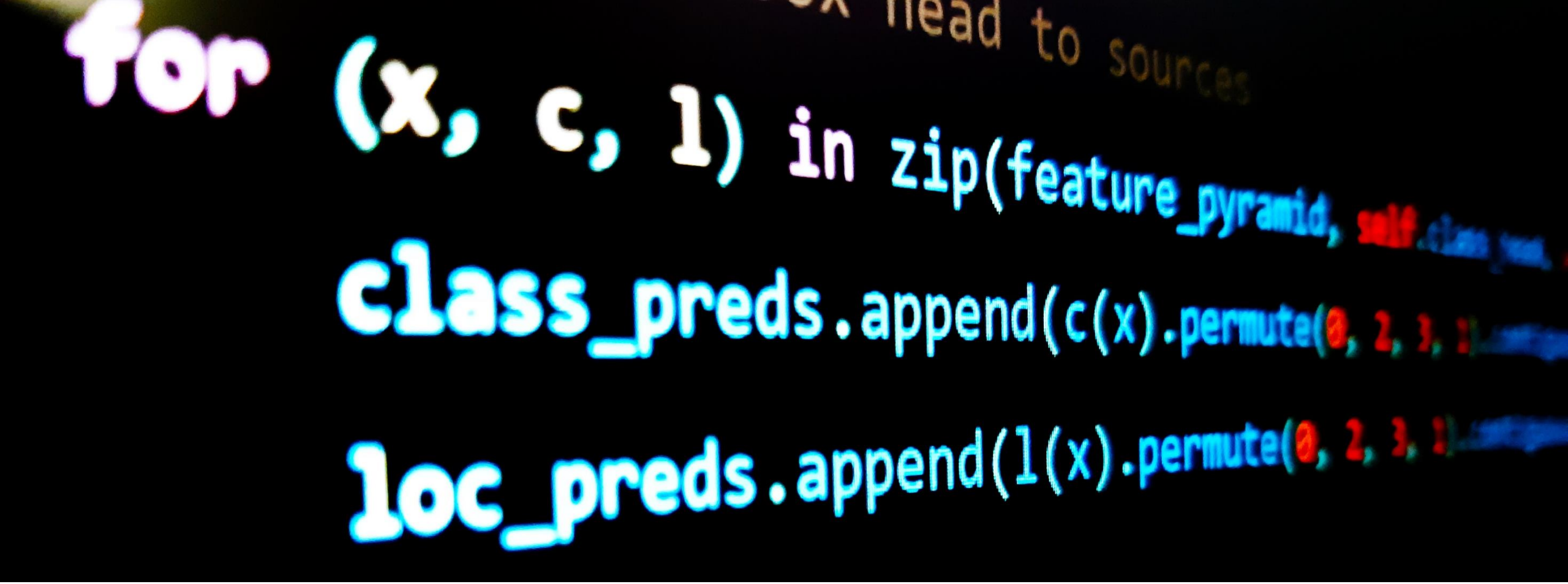
Infix: $(4 + 8) * (6 - 5) / ((3 - 2) * (2 + 2))$

Reversed: $((2 + 2) * (2 - 3))/(5 - 6) * (8 + 4)$

Stack:

Output: $2\ 2 + 2\ 3\ - * 5\ 6 - 8\ 4 + */$

Prefix: $/ *\ + 4\ 8 - 6\ 5\ *\ - 3\ 2\ +\ 2\ 2$




# INFIX TO PREFIX

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