

1. For each traversal below, draw the corresponding binary search tree. Whenever any node has only one child, clearly show whether it is a left child or a right child.

a. Preorder:    L J E A C G N R P Y T

b. Postorder:    D F K H B Q W U S Z M

c. Level-order:    C V E X J H T P M R L S

2. For each traversal below, draw the corresponding arithmetic expression tree, and also write an equivalent infix expression using the *fewest* parentheses. Assume all operators are binary, and infix expressions are evaluated using C++ precedence and associativity rules.

a. Prefix:  $/ + - C * E G A \% * D + F H B$

b. Postfix:  $Q J L + N / \% R K M * P + - *$

c. Level-order:  $* - S Z + * T Y / \% U + V X W$

3. For each traversal below, draw the corresponding binary heap. Each heap might be either min-ordered or max-ordered, so you'll need to determine which one it is.

a. Inorder:      T N P L X R V B J H M D F

b. Inorder:      Q T V R X L N J Z H K C S A G E

4. For each pair of traversals below, draw the corresponding general (non-binary) tree.

a. Preorder: F K Q P J D A M C H L G E B N  
Postorder: Q K J A D C H M G L E P N B F

b. Preorder: R Y B F T C W Z D G A E S X V  
Level-order: R Y B D V F G T C Z A E X W S

c. Postorder: N K T Q X H W P J Z L R U M S  
Level-order: S M H U N Q X P J Z R K T W L