Tree Traversal Questions
What is an in-order traversal of the following Binary Tree?
What is an in-order traversal of the following Binary Tree?

Answer: D B E A F C G
What is a pre-order traversal of the following Binary Tree?
What is a pre-order traversal of the following Binary Tree?

Answer: A B D E C F G
What is a post-order traversal of the following Binary Tree?

```
A
 /   \
B     C
 / \
D   E   F   G
```
What is a post-order traversal of the following Binary Tree?

Answer: D E B F G C A
Can you find an algorithm that gives A B C D E F G as its traversal of this tree?

Hint: try using one of the data structures you know ....
Answer: maintain a queue of tree nodes. Start by enqueueing the root. At each step remove the head of the queue, print it, and add its children to the queue: first left child, then right child.
What do we get if we do that algorithm with a stack instead of a queue: at each step we pop node \( t \) from the stack, print it, then push \( t \)’s left child, then push \( t \)’s right child?

![Binary tree diagram]

Answer: \( A \ C \ G \ F \ B \ E \ D \); if you push the right child then the left you get a pre-order traversal.