

**1) (10 pts) DSN (Binary Search Trees)**

(a) (3 pts) Given the following traversals, draw the Binary Search Tree they represent.

Pre-Order: 2, 0, 1, 10, 9, 12

Post-Order: 1, 0, 9, 12, 10, 2

In-Order: 0, 1, 2, 9, 10, 12

(b) (5 pts) If the nodes of the BST have the following structure, construct a recursive function to count the number of nodes in the tree.

```
typedef struct bstNode {  
    struct bstNode *left, *right;  
    char word[20];  
} bstNode;
```

```
int count(bstNode *root){
```

```
}
```

(c) (2 pts) Write a single line of code calling the count function that assigns the number of nodes in the left subtree of the tree pointed to by a pointer `myTreePtr` to the integer variable `leftCount`. You may assume that `myTreePtr` is not pointing to NULL and points to an actual `bstNode`.