

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

Michael took CS 1 last semester. During the Winter break he thought that it would be cool to keep track of all of the new words that he learned while reading a novel. He has stored all of his words (all 1-19 lowercase letters only) in alphabetic order in a binary search tree (BST). The nodes of his BST are stored in the following structure:

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

Michael wants to count the number of words in his binary search tree that come before a specified word in alphabetical order. Write a **recursive** function `countBefore` which takes in a pointer to the root of a binary search tree storing the words and a string `target` (of 1-19 lowercase letters only) and returns the number of words in the tree that *come before* `target`, alphabetically.

```
int countBefore(bsNode* root, char target[]){
```

```
}
```