3) (10 pts) DSN (Tries)

The word "intention" is such that four of its prefixes, "i", "in", "intent" and "intention" are words themselves. Write a function that takes in a pointer to the root of a trie storing a dictionary of words and returns the maximum number of words that are prefixes of a single word. Use the struct definition and function prototype given below.

```
typedef struct TrieNode {
    struct TrieNode *children[26];
    int flag; // 1 if the string is in the trie, 0 otherwise
} TrieNode;

int max(int a, int b) {
    if (a > b) return a;
    return b;
}

int maxNumPrefixWords(TrieNode* root) {

    if (root == NULL) return 0;                          // 2 pts
    int maxChild = 0;
    int i;
    for (i=0; i<26; i++)                                 // 2 pts
        maxChild = max(maxChild, maxNumPrefixWords(root->children[i]));
        // 4 pts, 3 pts for rec call, 1 for updating max

    return maxChild + root->flag;                        // 2 pts

}
```