

Competitive Programming

Lec 12

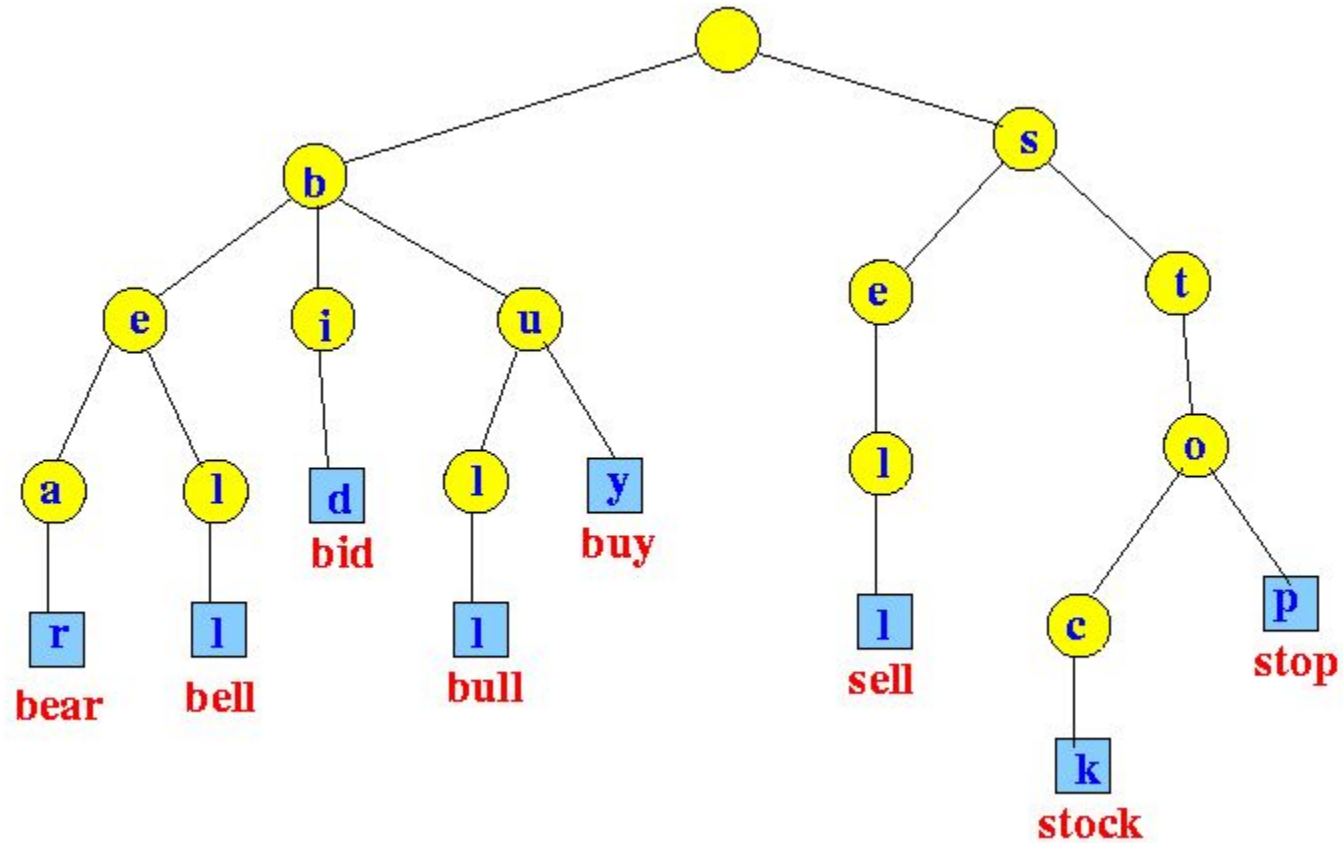
Trie

bear
bell
Bid
Bull
Buy
sell
Stock
Stop

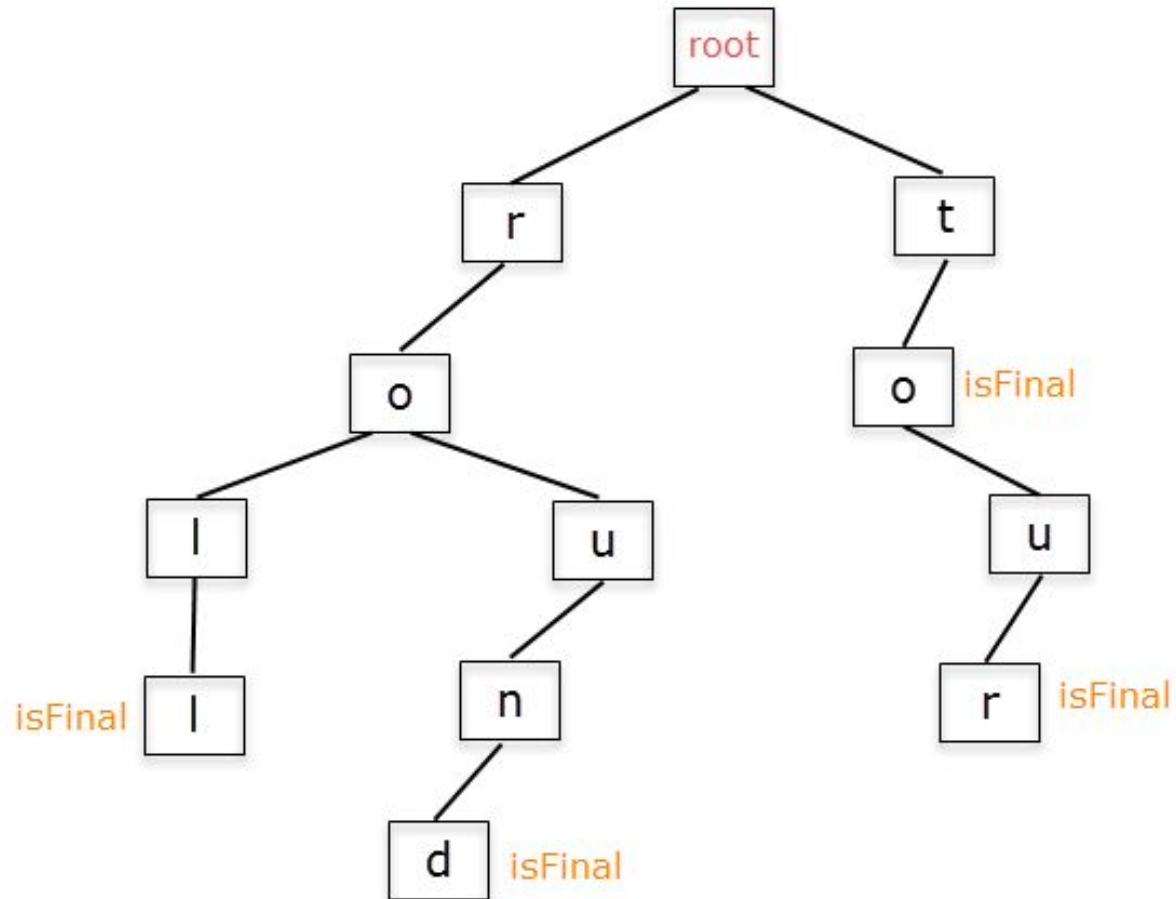
What is time complexity to find word ?

Can we do better ?

Trie



Trie



Applications

- Document word finding
- Google search suggestions
- Contact list in Phone
- Spell check
- IP address matching in routing

[Article on trie.](#)

C++ Implementation

```
struct Trie {  
    bool isWord;  
    map < char, Trie* > hashT;  
  
    Trie() {  
        isWord = false;  
        hashT.clear();  
    }  
};
```

Instead of map, you can use
`Trie *p[26];`

Trie Insert & Search

Trie is an efficient information retrieval data structure. Use this data structure to store Strings and search strings. Your task is to use TRIE data structure and search the given string A. If found print 1 else 0.

Example:

Input:

1

8

the a there answer any by bye their
the

Output:

1

Shortest Unique Prefix, Google

Find shortest unique prefix to represent each word in the list.

Example:

Input: [zebra, dog, duck, dove]

Output: {z, dog, du, dov}

where we can see that

zebra = z

dog = dog

duck = du

dove = dov

NOTE : Assume that no word is prefix of another.
In other words, the representation is always possible

Homework

<u>Hotel Reviews</u>	Medium, Interviewbit
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[Refer this post for more details with problem solution on Trie.](#)