COMP20010

Data Structures and Algorithms I

09 - Tutorial: Stacks

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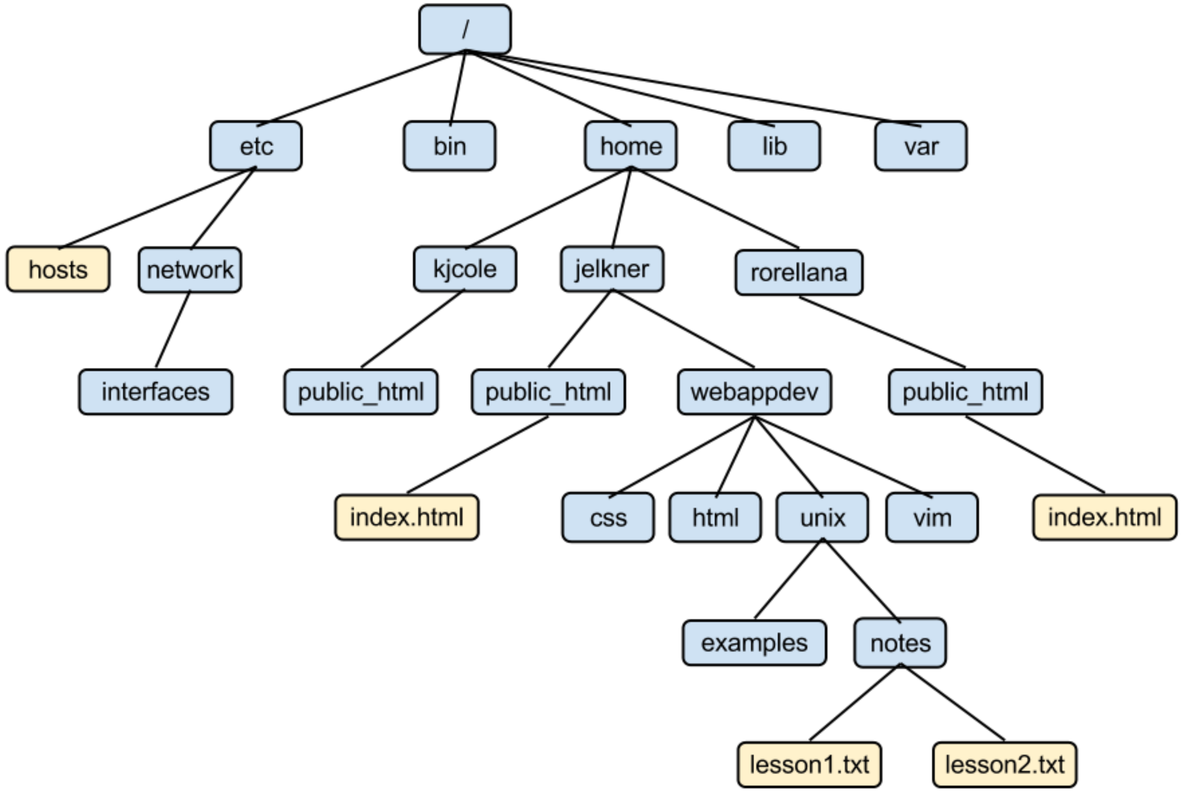
Stacks

- Implement the Stack ADT using an Array type
- Implement the Stack ADT using a singly linked list
- Comment on the differences in the implementations.

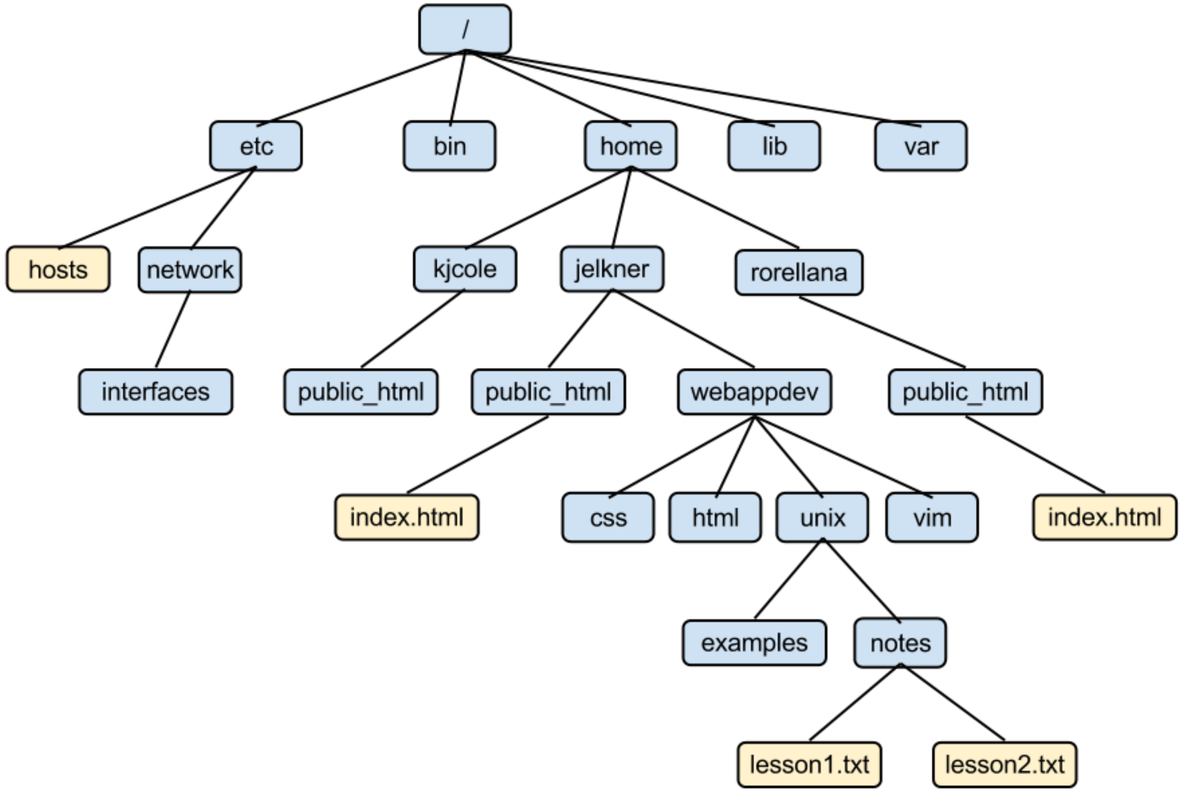
Stacks

- Review the java implementation of file counting
- directories are tree structures
- can hold files or directories



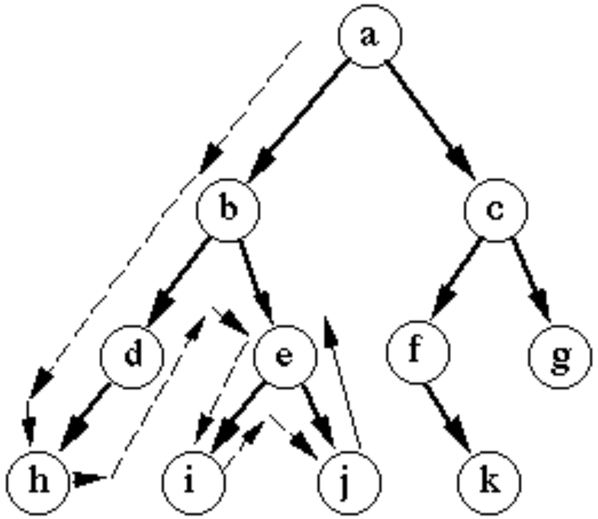
Stacks

- iterative file counting
- implement solution using stacks
- this is a form of graph search

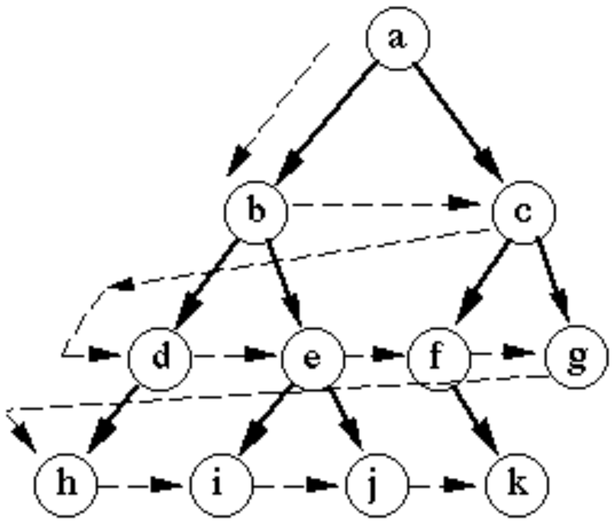


Stacks

- iterative file counting
- implement solution using stacks
- this is a form of graph search
- often implemented using stacks or queues



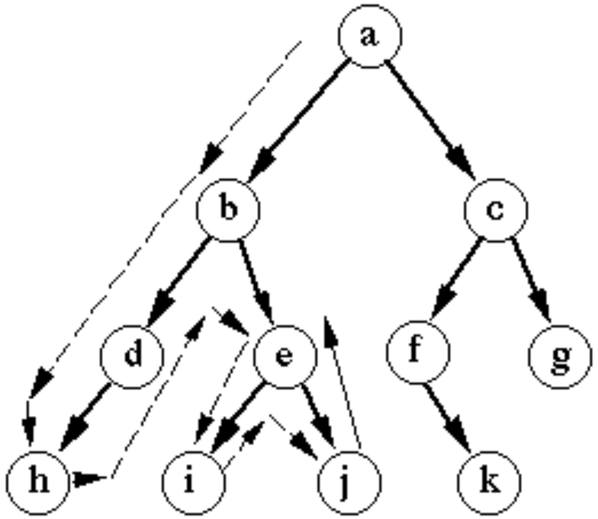
Depth-first search



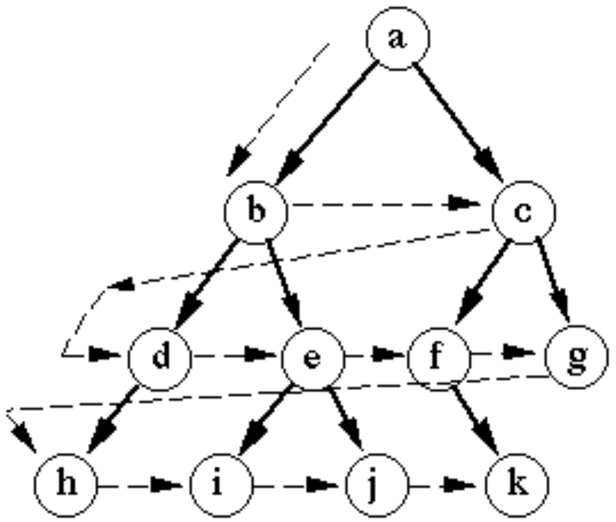
Breadth-first search

Stacks

- write a java function which counts the number of files (with a particular suffix) in a directory, using stacks and no recursion.



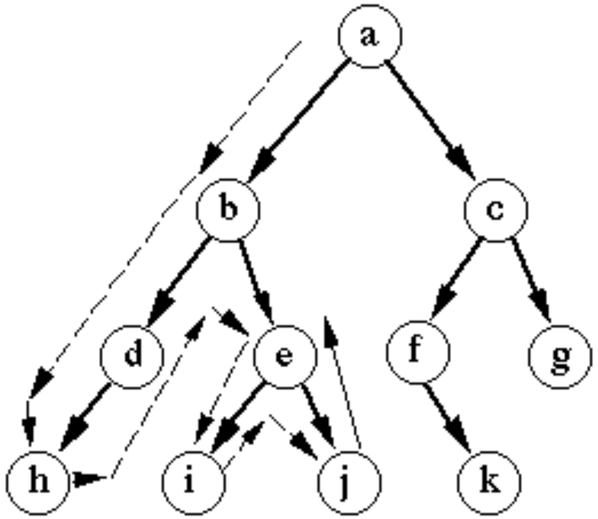
Depth-first search



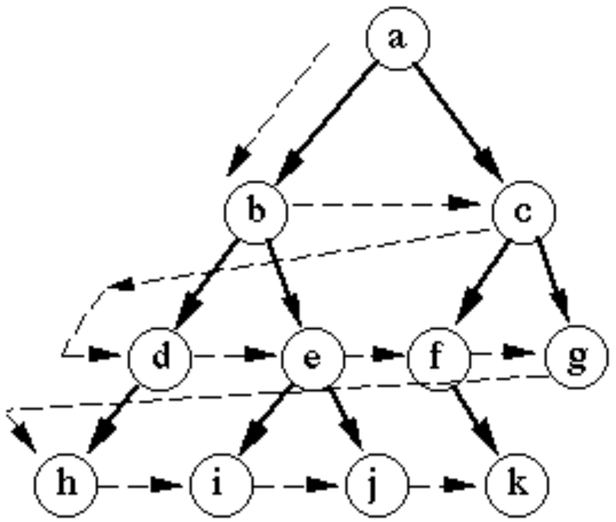
Breadth-first search

Stacks

- write a java function which counts the number of files (with a particular suffix) in a directory, using only recursion.



Depth-first search



Breadth-first search