# Advanced C Module

## Lab Assignment 1

Consider a Unix system where data is stored in *directories*. There is a *root directory* **(denoted by '/')** which contains several other directories, each with a unique name. These directories may further contain directories and so on, thus forming a hierarchy. A directory can be uniquely identified by its name and its parent directory (the directory it is directly contained in). This is usually encoded in a *path*, which consists of several parts each preceded by a forward slash ('/'). The final part is the name of the directory, and everything else gives the path of its parent directory. Example: root/dev/mydir/abc is the path to the directory 'abc'

You are given a directory.in file as per this format :

- First set of lines consist of directory path in each line existing on a Unix computer
- The second set of lines, as separated by an empty line from the first set, consists of a directory path in each line that you want to test for its existence.

Assume all of these as absolute paths

Your task is to

- Build a directory tree from the first set of lines using Linked List where each node contains the name of the directory and pointers to the children directory nodes.
- Use this directory tree to check if the paths given in the second set of lines exist or not. Print Yes/No on the console, corresponding to each of the path to be tested.

Assume that each directory can contain atmost 5 sub directories. Directory name may contain only these symbols 'a'-'z' and '0'-'9'

**Submission:** Upload your .c file on Backpack