Programming Assignment 1 (Part I)

(100 points)

Assigned Date: Wednesday, September 24, 2014

Extended Due Date: 4:00 PM Wednesday, October 1, 2014

Educational Goal

Become familiar with uninformed search strategies.

Requirements

Implement the Tower of Hanoi using 3 discs and 3 pegs. Initial state is aaa, goal state is bbb or ccc. Report the solution path from the initial state to the goal state.

- Uninformed Search: Implement breadth-first search, depth-first search, and iterative deepening, respectively. The program should be able to avoid repeated state in order to find the goal state.

Submission Requirements

1. Your program should be well-documented. Variable names and function names should be self-descriptive. Major functions should be explained clearly in comments. The program outputs should be presented in a clear sequence.
2. Turn in the paper copy and soft copy of all the files of this assignment. Submit a single zipped file of all the files of this assignment through your UMassOnline account. Submit the paper copy along with the cover page in class. Paper copy should be bound firmly together as one pack (for example, staple, but not limited to, at the left corner). 5 points will be deducted for unbounded homework.
3. Name your file with AI_ lastname_firstname_pr1. For example, student John Smith should name his file as AI_Smith_John_pr1.zip.
4. No hard copies or soft copies results in 0 points.
5. Here are the requirements on how the students should show the code to me.

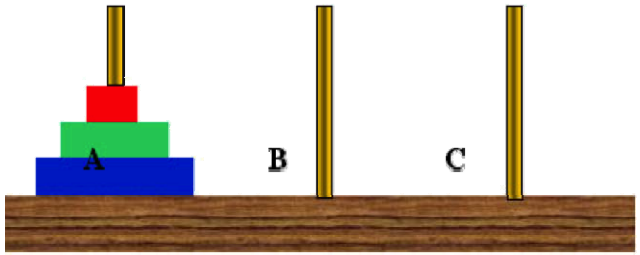
Demo Requirements

The instructor will check assignments in class on October 1. To run the demo efficiently, please pre-setup your demo and show the program to the instructor when everything is ready.

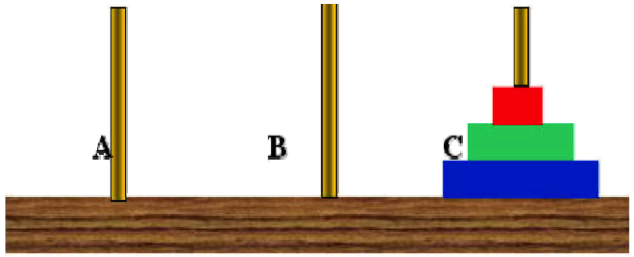
TOWER OF HANOI: 3 DISKS

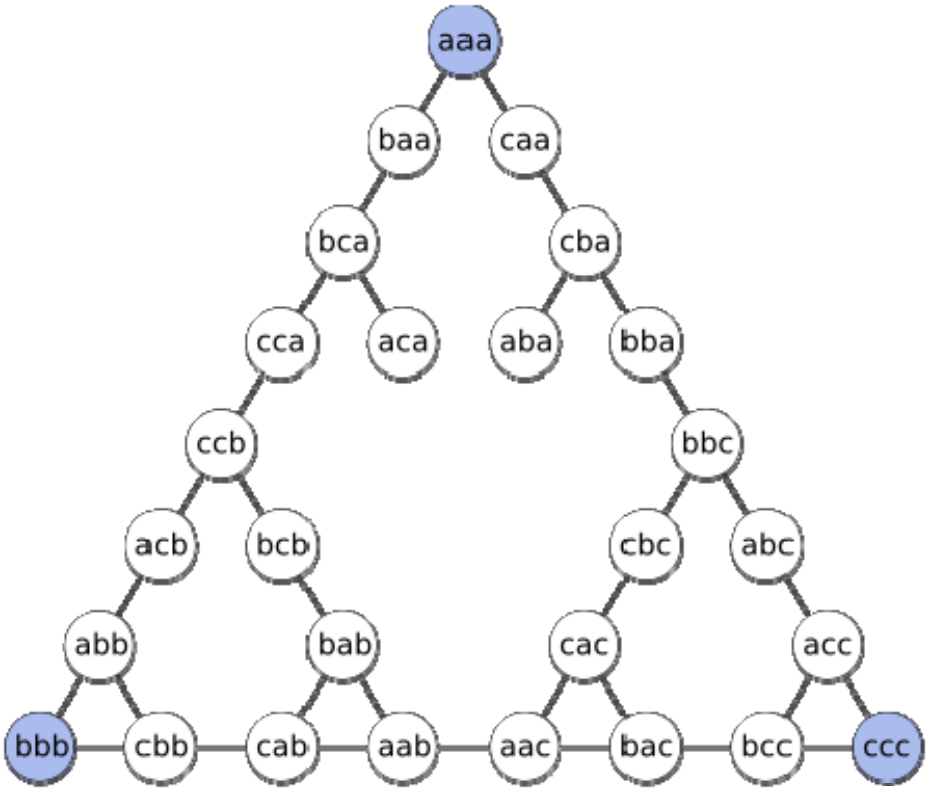
Charles Singleton

- Rules: One at a time, smaller on top
- q0 = all disks on a



- delta: move(peg-from, peg-to)
- Goal = all disks on c





- Odd # disks = until goal state, loop { A → C, A → B, C → B}

Note: Pegs not static, A=From, C=To, B=Extra. Move h-1 of h disks to Extra, move h to To, then A is from, B is to, and C is Extra; or A=old-A, B=old-C, C=old-B

- Path = moves taken from one state to another

Naresh Donthula be ready

top: http://www.webzeest.com/article/2021/tower-of-hanoi
bot: http://en.wikipedia.org/wiki/Tower_of_Hanoi