CITY UNIVERSITY

COMPUTER SCIENCE AND ENGINEERING

ARTIFICIAL INTELLIGENT LABORATORY

CSE 418

LAB ASSIGNMENT 2

STUDENT ID :
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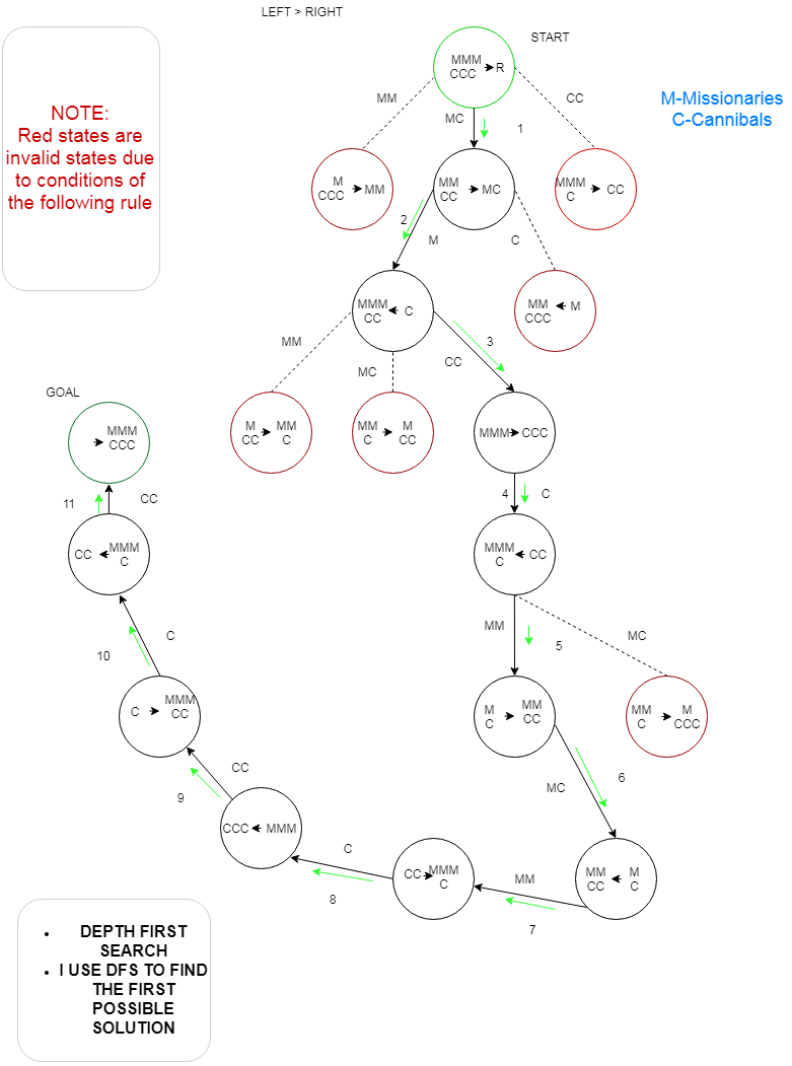
1 MISSIONARIES AND CANNIBALS PROBLEM

INITIAL STATE: IT IS THE STATE WHEN CANNIBALS AND MISSIONARIES ARE ON THE LEFT BANK OF THE RIVER WITH BOAT.I STATED THIS STATE WITH (MMM/CCC>R)

FINAL STATE: FINAL STATE IS THEY ALL CROSS THE RIVER AND GO TO THE OTHER SIDE. WHICH I STATED AS (0>MMM/CCC)(1)

1.1 STATE SPACE DIAGRAM



CCC.png CCC.png

Figure 1: STATE SPACE DIAGRAM

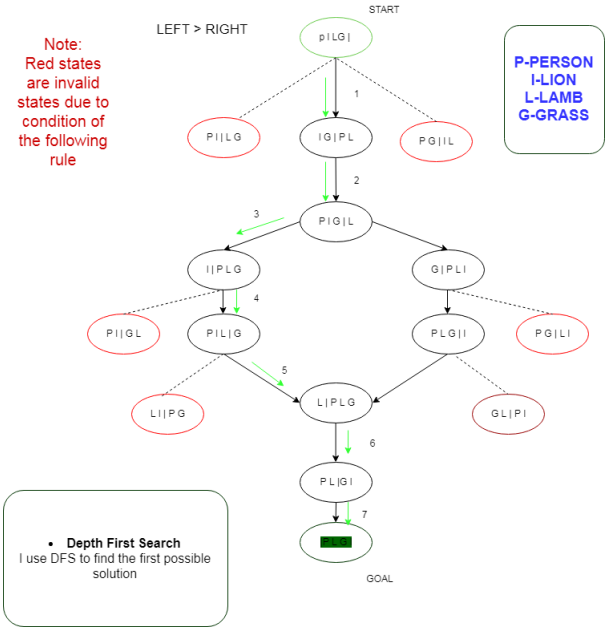
TO SLOVE THIS PROBLEM, I USED DFS BECAUSE IT WILL TAKE LESS STEPS THAN BFS.

2 LION,LAMB AND GRASS PROBLEM

INITIAL STATE: IT IS THE STATE WHEN LION,LAMBS AND GRASS ARE ON THE LEFT BANK OF THE RIVER WITH BOAT.(PLLG>R

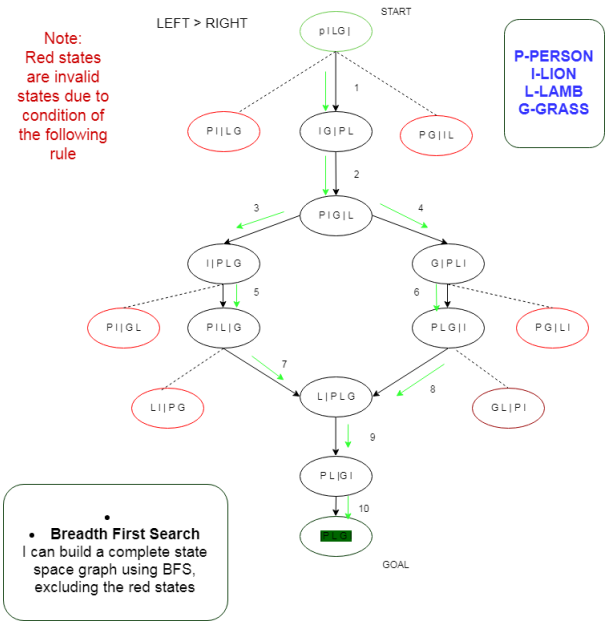
FINAL STATE: FINAL STATE IS THEY ALL CROSS THE RIVER AND GO TO THE OTHER SIDE.WHICH I STATED AS (0>PLLG)(2)

2.1 STATE SPACE DIAGRAM



LAMB GRASS.png LAMB GRASS.png

Figure 2: STATE SPACE DIAGRAM



LAMB GRASS 1.png LAMB GRASS 1.png

Figure 3: STATE SPACE DIAGRAM

TO SLOVE THIS PROBLEM, I USED DFS BECAUSE IT IS OPTIMAL SOLUTION.

References

[1] http://gki.informatik.uni-freiburg.de/teaching/ws0809/map/mas_lect4.pdf

[2] http://yongouyang.blogspot.com/2013/04/solving-farmer-wolf-goat-cabbage-riddle.html