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CPTS 440

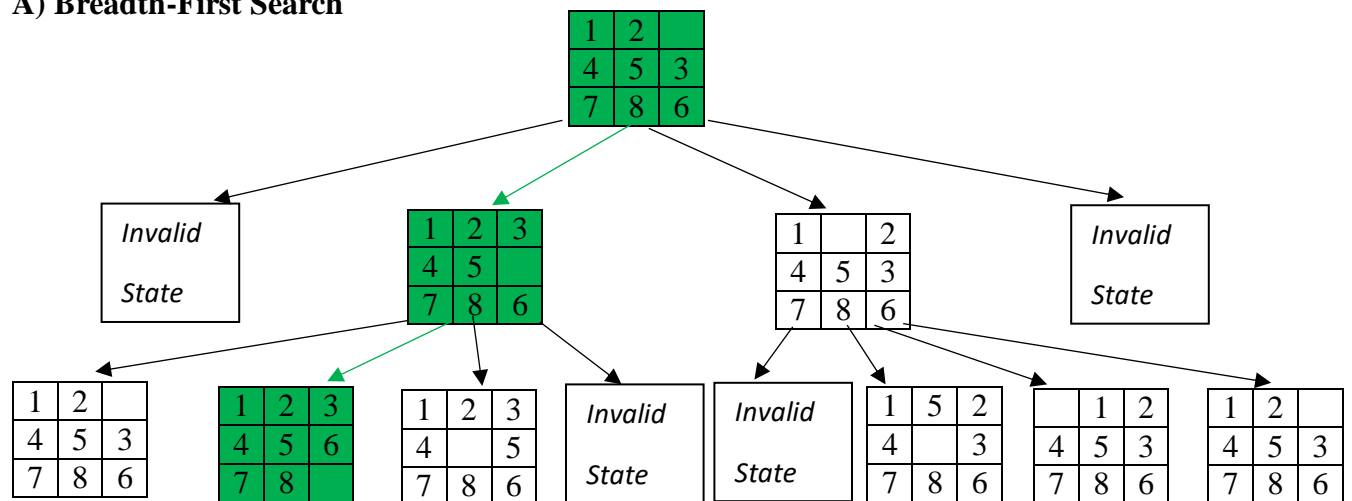
Artificial Intelligence

09-12-2019

Homework 3

1.

A) Breadth-First Search

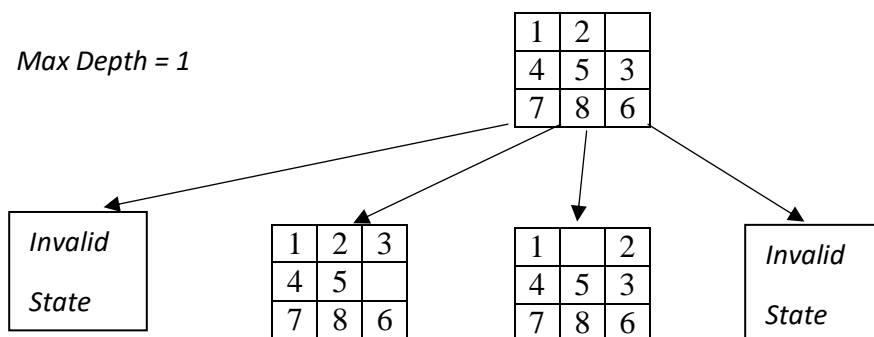


B) Iterative-Deepening Search

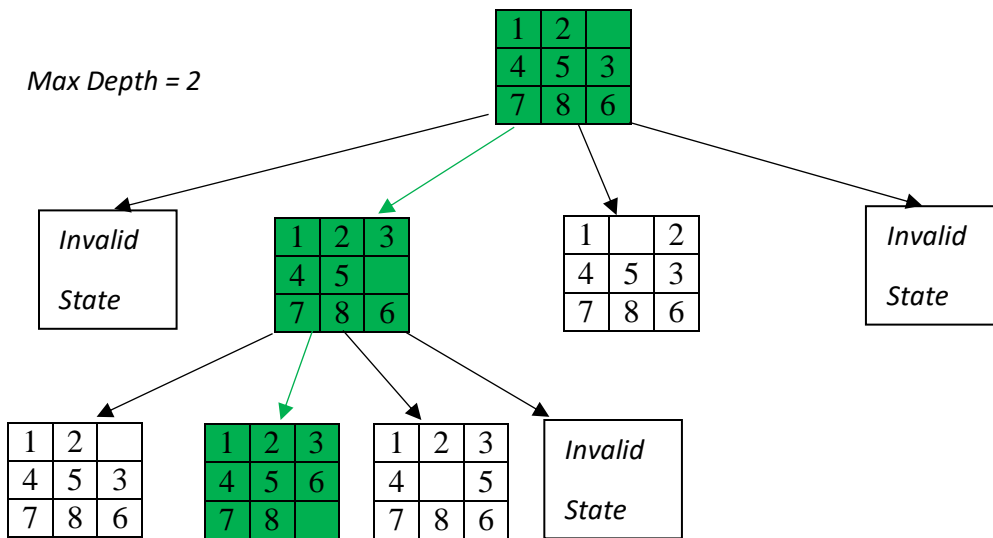
Max Depth = 0

1	2	
4	5	3
7	8	6

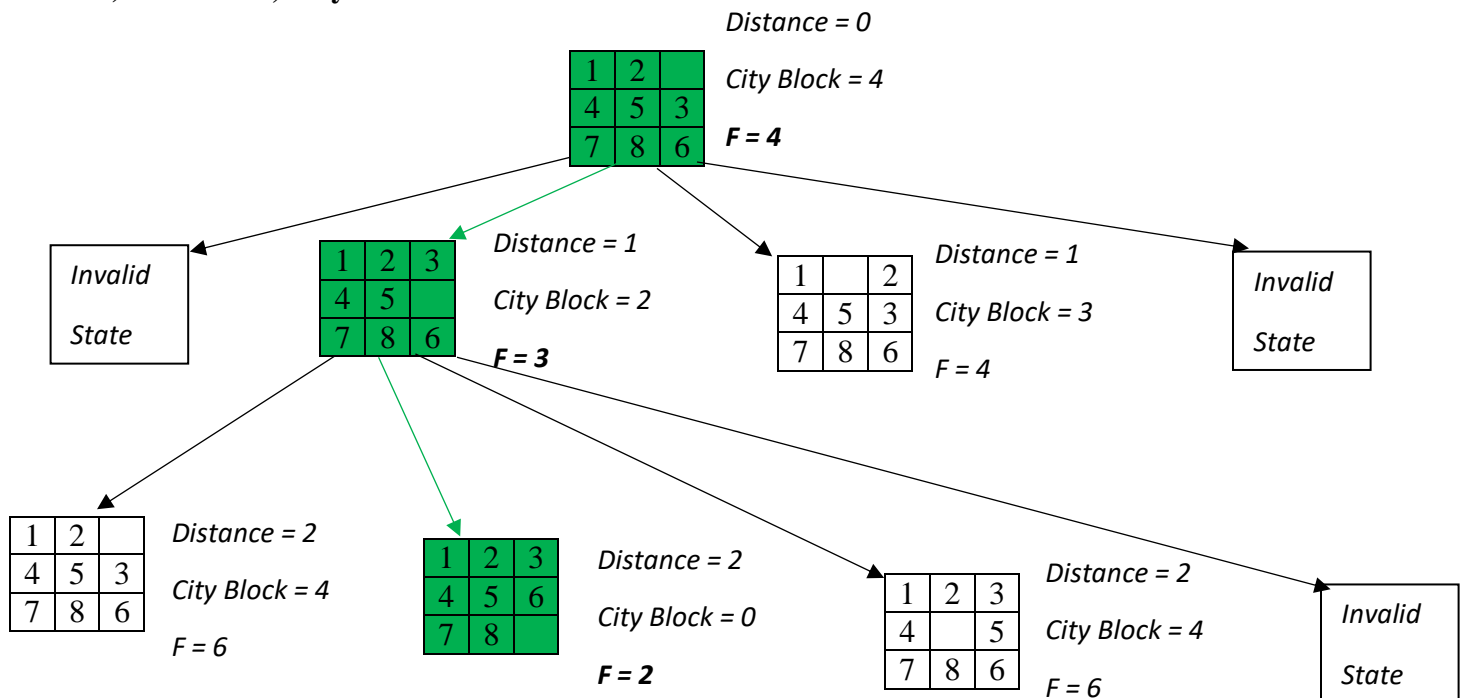
Max Depth = 1



Max Depth = 2



C) A* Search, City-Block Distance



D) Hamming distance or tiles out of place heuristic. It is admissible since the total number of moves to order the tiles correctly is at least the number of misplaced tiles. Therefore the cost to reach the goal is at least the Hamming distance of the 8-piece puzzle.

E) Hill Climbing Search, City-Block Distance, $V = (1 / (h + 1))$

