Sokoban Search

CS3346 Assignment 1

Sokoban Project

State: robots, boxes, storage, obstacles

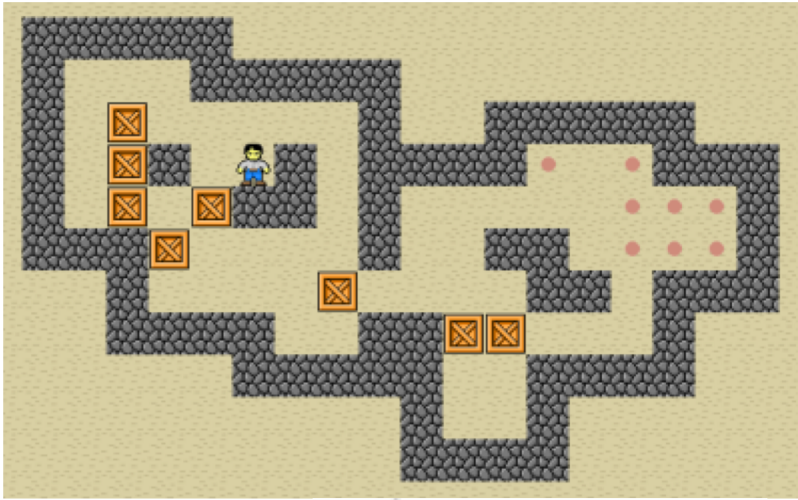
Actions: UP, DOWN, RIGHT, LEFT

Cost: forward cost h(n), backward cost g(n)

Successors: Update state with new robots and boxes locations

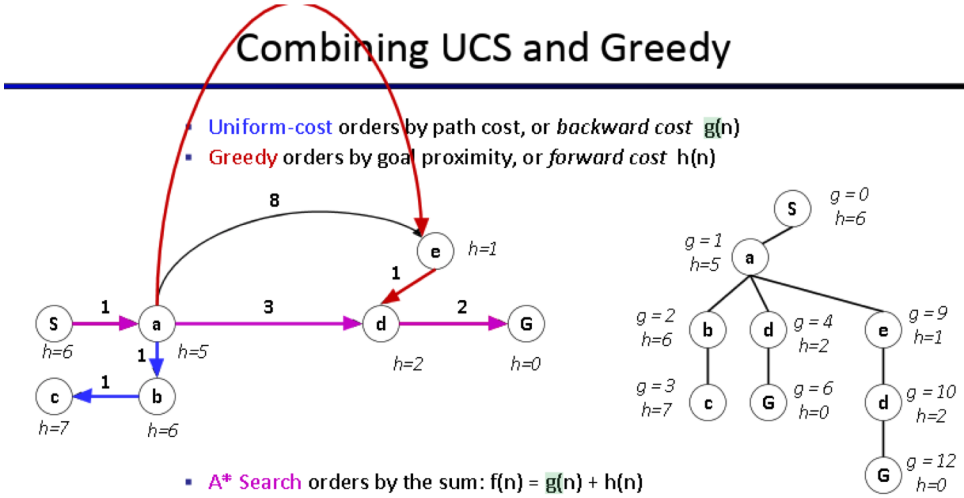
Goal: all boxes in the storage

Sokoban.py



```
ACTION was START
#######
#.### #
# $a  #
#     #
#  b  #
# ### #
#######
```

Search algorithms



- Anytime Greedy Best-First Search

  Keep searching a better path with lower h(n),

  until either there are no nodes left to expand or it runs out of time.

- Anytime Weighted A*

  Continue to search nodes with cost of $f = g(n) + \text{weight} * h(n)$,

  decreasing w at each iteration,

  until either there are no nodes left to expand or it runs out of time.