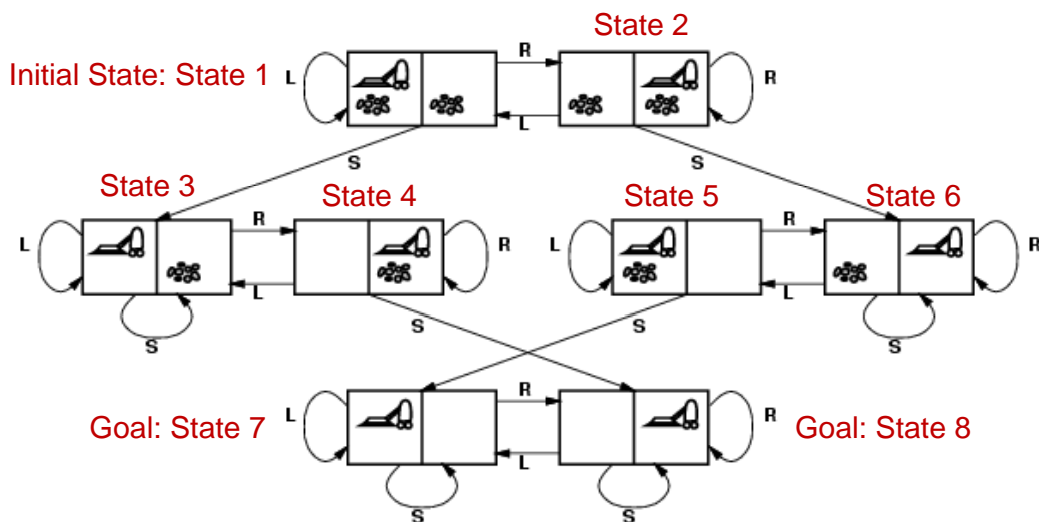


# INFORMED SEARCH STRATEGIES

## In-Class-Exercise

1

### VACUUM WORLD STATE SPACE GRAPH



## EXERCISES

1. Invent a heuristic function  $h()$  for the Vacuum-World problem.  $h$  should be admissible. Use A\* tree-search from the initial state to the goal state. Show the sequence of nodes that the algorithm will consider and the  $f$ ,  $g$ , and  $h$  score for each node.
2. Invent an objective function  $Value()$  for the Vacuum-World problem. Use hill-climbing search from the initial state. Explain whether your hill-climbing search algorithm can find the optimal solution.