2a

SFFF

FHFH

FFFH

HFFG

Executing Policy Iteration

Total time taken: 0.0180130004883

Total Policy Improvement Steps: 6

Total Policy Evaluation Steps: 315

Policy: ['DOWN' 'RIGHT' 'DOWN' 'LEFT' 'DOWN' 'LEFT' 'DOWN' 'LEFT' 'RIGHT' 'DOWN' 'DOWN' 'LEFT' 'LEFT' 'RIGHT' 'RIGHT' 'LEFT']

Executing Value Iteration

Total time taken: 0.00598001480103

Total Value Iteration Steps: 49

Policy: ['DOWN' 'RIGHT' 'DOWN' 'LEFT' 'DOWN' 'LEFT' 'DOWN' 'LEFT' 'RIGHT' 'DOWN' 'DOWN' 'LEFT' 'LEFT' 'RIGHT' 'RIGHT' 'LEFT']

2b

|  |  |  |  |
| --- | --- | --- | --- |
| D | R | D | L |
| D | L | D | L |
| R | D | D | L |
| L | R | R | L |

2c

For 8x8

SFFFFFFF

FFFFFFFF

FFFHFFFF

FFFFFHFF

FFFHFFFF

FHHFFFHF

FHFFHFHF

FFFHFFFG

Executing Policy Iteration

Total time taken: 0.152450084686

Total Policy Improvement Steps: 12

Total Policy Evaluation Steps: 525

Policy:

['DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN'

'DOWN' 'RIGHT' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'LEFT'

'DOWN' 'RIGHT' 'DOWN' 'DOWN' 'RIGHT' 'RIGHT' 'RIGHT' 'RIGHT' 'DOWN' 'LEFT'

'DOWN' 'DOWN' 'UP' 'UP' 'UP' 'LEFT' 'DOWN' 'DOWN' 'RIGHT' 'DOWN' 'UP'

'LEFT' 'LEFT' 'RIGHT' 'RIGHT' 'DOWN' 'LEFT' 'DOWN' 'DOWN' 'LEFT' 'RIGHT'

'UP' 'LEFT' 'DOWN' 'LEFT' 'DOWN' 'RIGHT' 'RIGHT' 'UP' 'LEFT' 'RIGHT'

'RIGHT' 'RIGHT' 'LEFT']

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D & D & D & D & D & D & D & D \\

D & D & D & R & D & D & D & D \\

D & D & D & L & D & R & D & D \\

R & R & R & R & D & L & D & D \\

U & U & U & L & D & D & R & D \\

U & L & L & R & R & D & L & D \\

D & L & R & U & L & D & L & D \\

R & R & U & L & R & R & R & L \\

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Executing Value Iteration

Total time taken: 0.0225489139557

Total Value Iteration Steps: 44

Policy:

['DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN'

'DOWN' 'RIGHT' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'DOWN' 'LEFT'

'DOWN' 'RIGHT' 'DOWN' 'DOWN' 'RIGHT' 'RIGHT' 'RIGHT' 'RIGHT' 'DOWN' 'LEFT'

'DOWN' 'DOWN' 'UP' 'UP' 'UP' 'LEFT' 'DOWN' 'DOWN' 'RIGHT' 'DOWN' 'UP'

'LEFT' 'LEFT' 'RIGHT' 'RIGHT' 'DOWN' 'LEFT' 'DOWN' 'DOWN' 'LEFT' 'RIGHT'

'UP' 'LEFT' 'DOWN' 'LEFT' 'DOWN' 'RIGHT' 'RIGHT' 'UP' 'LEFT' 'RIGHT'

'RIGHT' 'RIGHT' 'LEFT']

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D & D & D & D & D & D & D & D \\

D & D & D & R & D & D & D & D \\

D & D & D & L & D & R & D & D \\

R & R & R & R & D & L & D & D \\

U & U & U & L & D & D & R & D \\

U & L & L & R & R & D & L & D \\

D & L & R & U & L & D & L & D \\

R & R & U & L & R & R & R & L \\

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