

Question 3 part (c) results

Zhunan Shuai

Test uniform cost search with $h1()$

Exploring state: 7,7, cost: 0
Checking neighbor 7,6 of 7,7
Adding state: 7,6 with total cost: 1
Exploring state: 7,6, cost: 1
Checking neighbor 7,5 of 7,6
Adding state: 7,5 with total cost: 2
Checking neighbor 7,7 of 7,6
Exploring state: 7,5, cost: 2
Checking neighbor 6,5 of 7,5
Adding state: 6,5 with total cost: 3
Checking neighbor 7,4 of 7,5
Adding state: 7,4 with total cost: 3
Checking neighbor 7,6 of 7,5
Exploring state: 6,5, cost: 3
Checking neighbor 5,5 of 6,5
Adding state: 5,5 with total cost: 4
Checking neighbor 7,5 of 6,5
Exploring state: 7,4, cost: 3
Checking neighbor 7,3 of 7,4
Adding state: 7,3 with total cost: 4
Checking neighbor 7,5 of 7,4
Exploring state: 5,5, cost: 4
Checking neighbor 6,5 of 5,5
Checking neighbor 5,4 of 5,5
Adding state: 5,4 with total cost: 5
Checking neighbor 5,6 of 5,5
Adding state: 5,6 with total cost: 5
Exploring state: 7,3, cost: 4
Checking neighbor 7,2 of 7,3
Adding state: 7,2 with total cost: 5
Checking neighbor 7,4 of 7,3
Exploring state: 5,4, cost: 5
Checking neighbor 4,4 of 5,4
Adding state: 4,4 with total cost: 6
Checking neighbor 5,5 of 5,4
Exploring state: 5,6, cost: 5
Checking neighbor 5,5 of 5,6
Checking neighbor 5,7 of 5,6
Adding state: 5,7 with total cost: 6

Exploring state: 7,2, cost: 5
Checking neighbor 7,3 of 7,2
Exploring state: 4,4, cost: 6
Checking neighbor 5,4 of 4,4
Checking neighbor 4,3 of 4,4
Adding state: 4,3 with total cost: 7
Exploring state: 5,7, cost: 6
Checking neighbor 4,7 of 5,7
Adding state: 4,7 with total cost: 7
Checking neighbor 5,6 of 5,7
Exploring state: 4,3, cost: 7
Checking neighbor 3,3 of 4,3
Adding state: 3,3 with total cost: 8
Checking neighbor 4,2 of 4,3
Adding state: 4,2 with total cost: 8
Checking neighbor 4,4 of 4,3
Exploring state: 4,7, cost: 7
Checking neighbor 3,7 of 4,7
Adding state: 3,7 with total cost: 8
Checking neighbor 5,7 of 4,7
Exploring state: 3,3, cost: 8
Checking neighbor 2,3 of 3,3
Adding state: 2,3 with total cost: 9
Checking neighbor 4,3 of 3,3
Exploring state: 4,2, cost: 8
Checking neighbor 4,1 of 4,2
Adding state: 4,1 with total cost: 9
Checking neighbor 4,3 of 4,2
Exploring state: 3,7, cost: 8
Checking neighbor 4,7 of 3,7
Exploring state: 2,3, cost: 9
Checking neighbor 3,3 of 2,3
Checking neighbor 2,4 of 2,3
Adding state: 2,4 with total cost: 10
Exploring state: 4,1, cost: 9
Checking neighbor 4,0 of 4,1
Adding state: 4,0 with total cost: 10
Checking neighbor 4,2 of 4,1
Exploring state: 2,4, cost: 10
Checking neighbor 2,3 of 2,4
Checking neighbor 2,5 of 2,4
Adding state: 2,5 with total cost: 11
Exploring state: 4,0, cost: 10
Checking neighbor 5,0 of 4,0

Adding state: 5,0 with total cost: 11
Checking neighbor 4,1 of 4,0
Exploring state: 2,5, cost: 11
Checking neighbor 2,4 of 2,5
Checking neighbor 2,6 of 2,5
Adding state: 2,6 with total cost: 12
Exploring state: 5,0, cost: 11
Checking neighbor 4,0 of 5,0
Exploring state: 2,6, cost: 12
Checking neighbor 1,6 of 2,6
Adding state: 1,6 with total cost: 13
Checking neighbor 2,5 of 2,6
Exploring state: 1,6, cost: 13
Checking neighbor 0,6 of 1,6
Adding state: 0,6 with total cost: 14
Checking neighbor 2,6 of 1,6
Exploring state: 0,6, cost: 14
Checking neighbor 1,6 of 0,6
Checking neighbor 0,5 of 0,6
Adding state: 0,5 with total cost: 15
Exploring state: 0,5, cost: 15
Checking neighbor 0,4 of 0,5
Adding state: 0,4 with total cost: 16
Checking neighbor 0,6 of 0,5
Exploring state: 0,4, cost: 16
Checking neighbor 0,3 of 0,4
Adding state: 0,3 with total cost: 17
Checking neighbor 0,5 of 0,4
Exploring state: 0,3, cost: 17
Checking neighbor 0,2 of 0,3
Adding state: 0,2 with total cost: 18
Checking neighbor 0,4 of 0,3
Exploring state: 0,2, cost: 18
Checking neighbor 0,1 of 0,2
Adding state: 0,1 with total cost: 19
Checking neighbor 0,3 of 0,2
Exploring state: 0,1, cost: 19
Checking neighbor 0,0 of 0,1
Adding state: 0,0 with total cost: 20
Checking neighbor 0,2 of 0,1
Exploring state: 0,0, cost: 20
Total states generated: 32

Test A* with sld()

Exploring state: 7,7, cost: 0
Checking neighbor 7,6 of 7,7
Adding state: 7,6 with total cost: 10.219544457292887
Exploring state: 7,6, cost: 10.219544457292887
Checking neighbor 7,5 of 7,6
Adding state: 7,5 with total cost: 19.821869724335514
Checking neighbor 7,7 of 7,6
Exploring state: 7,5, cost: 19.821869724335514
Checking neighbor 6,5 of 7,5
Adding state: 6,5 with total cost: 28.632119400242168
Checking neighbor 7,4 of 7,5
Adding state: 7,4 with total cost: 28.884127472634063
Checking neighbor 7,6 of 7,5
Exploring state: 6,5, cost: 28.632119400242168
Checking neighbor 5,5 of 6,5
Adding state: 5,5 with total cost: 36.70318721210764
Checking neighbor 7,5 of 6,5
Exploring state: 7,4, cost: 28.884127472634063
Checking neighbor 7,3 of 7,4
Adding state: 7,3 with total cost: 37.49990057849797
Checking neighbor 7,5 of 7,4
Exploring state: 5,5, cost: 36.70318721210764
Checking neighbor 6,5 of 5,5
Checking neighbor 5,4 of 5,5
Adding state: 5,4 with total cost: 44.10631144954049
Checking neighbor 5,6 of 5,5
Adding state: 5,6 with total cost: 45.5134368880143
Exploring state: 7,3, cost: 37.49990057849797
Checking neighbor 7,2 of 7,3
Adding state: 7,2 with total cost: 45.78001046777849
Checking neighbor 7,4 of 7,3
Exploring state: 5,4, cost: 44.10631144954049
Checking neighbor 4,4 of 5,4
Adding state: 4,4 with total cost: 50.763165699032875
Checking neighbor 5,5 of 5,4

Exploring state: 5,6, cost: 45.5134368880143
Checking neighbor 5,5 of 5,6
Checking neighbor 5,7 of 5,6
Adding state: 5,7 with total cost: 55.11576215505693
Exploring state: 7,2, cost: 45.78001046777849
Checking neighbor 7,3 of 7,2
Exploring state: 4,4, cost: 50.763165699032875
Checking neighbor 5,4 of 4,4
Checking neighbor 4,3 of 4,4
Adding state: 4,3 with total cost: 56.763165699032875
Exploring state: 5,7, cost: 55.11576215505693
Checking neighbor 4,7 of 5,7
Adding state: 4,7 with total cost: 64.17801990335548
Checking neighbor 5,6 of 5,7
Exploring state: 4,3, cost: 56.763165699032875
Checking neighbor 3,3 of 4,3
Adding state: 3,3 with total cost: 62.00580638615216
Checking neighbor 4,2 of 4,3
Adding state: 4,2 with total cost: 62.235301654032455
Checking neighbor 4,4 of 4,3
Exploring state: 3,3, cost: 62.00580638615216
Checking neighbor 2,3 of 3,3
Adding state: 2,3 with total cost: 66.61135766161615
Checking neighbor 4,3 of 3,3
Exploring state: 4,2, cost: 62.235301654032455
Checking neighbor 4,1 of 4,2
Adding state: 4,1 with total cost: 67.35840727965011
Checking neighbor 4,3 of 4,2
Exploring state: 4,7, cost: 64.17801990335548
Checking neighbor 3,7 of 4,7
Adding state: 3,7 with total cost: 72.79379300921939
Checking neighbor 5,7 of 4,7
Exploring state: 2,3, cost: 66.61135766161615
Checking neighbor 3,3 of 2,3
Checking neighbor 2,4 of 2,3
Adding state: 2,4 with total cost: 72.08349361661573
Exploring state: 4,1, cost: 67.35840727965011
Checking neighbor 4,0 of 4,1

Adding state: 4,0 with total cost: 72.35840727965011
Checking neighbor 4,2 of 4,1
Exploring state: 2,4, cost: 72.08349361661573
Checking neighbor 2,3 of 2,4
Checking neighbor 2,5 of 2,4
Adding state: 2,5 with total cost: 78.46865842375023
Exploring state: 4,0, cost: 72.35840727965011
Checking neighbor 5,0 of 4,0
Adding state: 5,0 with total cost: 78.35840727965011
Checking neighbor 4,1 of 4,0
Exploring state: 3,7, cost: 72.79379300921939
Checking neighbor 4,7 of 3,7
Exploring state: 5,0, cost: 78.35840727965011
Checking neighbor 4,0 of 5,0
Exploring state: 2,5, cost: 78.46865842375023
Checking neighbor 2,4 of 2,5
Checking neighbor 2,6 of 2,5
Adding state: 2,6 with total cost: 85.79321374408698
Exploring state: 2,6, cost: 85.79321374408698
Checking neighbor 1,6 of 2,6
Adding state: 1,6 with total cost: 92.87597627438521
Checking neighbor 2,5 of 2,6
Exploring state: 1,6, cost: 92.87597627438521
Checking neighbor 0,6 of 1,6
Adding state: 0,6 with total cost: 99.87597627438521
Checking neighbor 2,6 of 1,6
Exploring state: 0,6, cost: 99.87597627438521
Checking neighbor 1,6 of 0,6
Checking neighbor 0,5 of 0,6
Adding state: 0,5 with total cost: 105.87597627438521
Exploring state: 0,5, cost: 105.87597627438521
Checking neighbor 0,4 of 0,5
Adding state: 0,4 with total cost: 110.87597627438521
Checking neighbor 0,6 of 0,5
Exploring state: 0,4, cost: 110.87597627438521
Checking neighbor 0,3 of 0,4
Adding state: 0,3 with total cost: 114.87597627438521
Checking neighbor 0,5 of 0,4

Exploring state: 0,3, cost: 114.87597627438521
Checking neighbor 0,2 of 0,3
Adding state: 0,2 with total cost: 117.87597627438521
Checking neighbor 0,4 of 0,3
Exploring state: 0,2, cost: 117.87597627438521
Checking neighbor 0,1 of 0,2
Adding state: 0,1 with total cost: 119.87597627438521
Checking neighbor 0,3 of 0,2
Exploring state: 0,1, cost: 119.87597627438521
Checking neighbor 0,0 of 0,1
Adding state: 0,0 with total cost: 120.87597627438521
Checking neighbor 0,2 of 0,1
Exploring state: 0,0, cost: 120.87597627438521
Total states generated: 32
Ran 1 test in 0.016s
OK