Nathan Sucher

Homework 1 Task 1

**Output For Case 1:**

DONE

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Number of steps: 213

Path to Goal: ['Down', 'Down', 'Down', 'Left']

Time: 0.059012651443481445 seconds

Open List Size: 246

Nodes Added to Open List: 462

Nodes Added to Closed List: 213

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Steps From Goal to Start:

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State ID: 7

Parent State ID: 5

G(n): 22

H(n): 0

F(n): 22

Depth: 4

Move: Left

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State ID: 5

Parent State ID: 4

G(n): 21

H(n): 2

F(n): 23

Depth: 3

Move: Down

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State ID: 4

Parent State ID: 3

G(n): 6

H(n): 3

F(n): 9

Depth: 2

Move: Down

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State ID: 3

Parent State ID: 1

G(n): 3

H(n): 4

F(n): 7

Depth: 1

Move: Down

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State ID: 1

Parent State ID: None

G(n): 0

H(n): 0

F(n): 0

Depth: 0

Move: None

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**Output For Case 2:**

DONE

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Number of steps: 2670

Path to Goal: ['Up', 'Up', 'Left', 'Down', 'Right', 'Down']

Time: 2.7966275215148926 seconds

Open List Size: 2652

Nodes Added to Open List: 5414

Nodes Added to Closed List: 2670

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Steps From Goal to Start:

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State ID: 10

Parent State ID: 8

G(n): 38

H(n): 0

F(n): 38

Depth: 6

Move: Down

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State ID: 8

Parent State ID: 6

G(n): 23

H(n): 2

F(n): 25

Depth: 5

Move: Right

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State ID: 6

Parent State ID: 5

G(n): 20

H(n): 3

F(n): 23

Depth: 4

Move: Down

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State ID: 5

Parent State ID: 3

G(n): 19

H(n): 4

F(n): 23

Depth: 3

Move: Left

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State ID: 3

Parent State ID: 2

G(n): 18

H(n): 5

F(n): 23

Depth: 2

Move: Up

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State ID: 2

Parent State ID: 1

G(n): 15

H(n): 5

F(n): 20

Depth: 1

Move: Up

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State ID: 1

Parent State ID: None

G(n): 0

H(n): 0

F(n): 0

Depth: 0

Move: None

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