

Assignment 2: Search - Question 2

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<bfs: mission_complete>

Goal found

(Location: battery

Sample Extracted?: True

Holding Sample?: False

Charged? True, 'move_to_battery')

Location: sample

Sample Extracted?: True

Holding Sample?: False

Charged? True

Location: sample

Sample Extracted?: True

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

None

The number of states generated: 46

(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True, 'move_to_battery')

<dfs: mission_complete>

Goal found
(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True, 'move_to_battery')
Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? True
Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? True
Location: station
Sample Extracted?: True
Holding Sample?: True
Charged? True
Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? True
Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? True
Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False

Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
None
The number of states generated: 63
(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True, 'move_to_battery')

<bfs: problem decomposition>

1. move to sample

Goal found
(Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False, 'move_to_sample')
Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

None

The number of states generated: 3

2. remove sample

Goal found

(Location: sample

Sample Extracted?: True

Holding Sample?: True

Charged? False, 'pick_up_sample')

Location: sample

Sample Extracted?: True

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

None

The number of states generated: 28

3. return to charger

Goal found

(Location: battery

Sample Extracted?: True

Holding Sample?: True

Charged? False, 'move_to_battery')

Location: sample

Sample Extracted?: True

Holding Sample?: True

Charged? False

Location: sample

Sample Extracted?: True

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

None

The number of states generated: 7

<dfs: problem decomposition>

1. move to sample

Goal found

(Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False, 'move_to_sample')

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False
Holding Sample?: False
Charged? False
None
The number of states generated: 9

2. remove sample

Goal found
(Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False, 'pick_up_sample')
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
None
The number of states generated: 20

3. return to charger

Goal found
(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? False, 'move_to_battery')
Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: station
Sample Extracted?: True
Holding Sample?: True
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Location: sample
Sample Extracted?: False
Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

None

The number of states generated: 18