

WITH BFS:

Subproblem 1: Moving to the sample

Goal found

(Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

, 'move_to_sample')

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

Location: station

Sample Extracted?: False

Holding Sample?: False

Charged? False

Holding Tool?: False

Dropped Off Sample?: False

None

BFS - Total number of states generated: 12

BFS Result: (Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

, 'move_to_sample')

Subproblem 2: Collecting the sample

Goal found

(Location: sample

Sample Extracted?: True

Holding Sample?: True

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

, 'pick_up_sample')

Location: sample

Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

None
BFS - Total number of states generated: 13
BFS Result: (Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False
Holding Tool?: True
Dropped Off Sample?: False
, 'pick_up_sample')

Subproblem 3: Returning to the station and charging
Goal found
(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: False
Dropped Off Sample?: True
, 'charge')
Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: True

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False

Dropped Off Sample?: True

Location: station

Sample Extracted?: True

Holding Sample?: False

Charged? False

Holding Tool?: True

Dropped Off Sample?: True

Location: station

Sample Extracted?: True

Holding Sample?: True

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

Location: sample

Sample Extracted?: True

Holding Sample?: True

Charged? False

Holding Tool?: True

Dropped Off Sample?: False

None

BFS - Total number of states generated: 52

BFS Result: (Location: battery

Sample Extracted?: True

Holding Sample?: False

Charged? True

Holding Tool?: False

Dropped Off Sample?: True

, 'charge')

WITH DFS:

Subproblem 1: Moving to the sample

Goal found

(Location: sample

Sample Extracted?: False

Holding Sample?: False

Charged? True

Holding Tool?: True

Dropped Off Sample?: False

, 'move_to_sample')

Location: battery

Sample Extracted?: False
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False

Location: battery
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

None
DFS - Total number of states generated: 12
DFS Result: (Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False
, 'move_to_sample')

Subproblem 2: Collecting the sample
Goal found
(Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? True
Holding Tool?: True

Dropped Off Sample?: False
, 'pick_up_sample')
Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: False
Dropped Off Sample?: False

Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: False
Dropped Off Sample?: False

Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

None
DFS - Total number of states generated: 28
DFS Result: (Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? True
Holding Tool?: True
Dropped Off Sample?: False
, 'pick_up_sample')

Subproblem 3: Returning to the station and charging
Goal found
(Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: False
Dropped Off Sample?: True
, 'charge')
Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? False

Holding Tool?: False
Dropped Off Sample?: True

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: True

Location: station
Sample Extracted?: True
Holding Sample?: True
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: True
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

None
DFS - Total number of states generated: 20
DFS Result: (Location: battery
Sample Extracted?: True
Holding Sample?: False
Charged? True
Holding Tool?: False
Dropped Off Sample?: True
, 'charge')

WITH DLS:

Subproblem 1: Moving to the sample
Goal found

(Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False
, 'move_to_sample')
Location: battery
Sample Extracted?: False
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False

Location: battery
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: station
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

None
DLS - Total number of states generated: 12
DLS Result: (Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? True
Holding Tool?: True
Dropped Off Sample?: False
, 'move_to_sample')

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Location: sample

Sample Extracted?: True

Holding Sample?: False

Charged? True

Holding Tool?: True

Dropped Off Sample?: False

Location: station

Sample Extracted?: True

Holding Sample?: False

Charged? True

Holding Tool?: True

Dropped Off Sample?: False

Location: station

Sample Extracted?: True

Holding Sample?: False

Charged? True

Holding Tool?: False

Dropped Off Sample?: False

Location: battery

Sample Extracted?: True

Holding Sample?: False

Charged? True

Holding Tool?: False

Dropped Off Sample?: False

Location: battery

Sample Extracted?: True

Holding Sample?: False

Charged? False

Holding Tool?: False

Dropped Off Sample?: False

Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: False

Location: station
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Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

Location: sample
Sample Extracted?: False
Holding Sample?: False
Charged? False
Holding Tool?: True
Dropped Off Sample?: False

None
DLS - Total number of states generated: 28
DLS Result: (Location: sample
Sample Extracted?: True
Holding Sample?: True
Charged? True
Holding Tool?: True
Dropped Off Sample?: False
, 'pick_up_sample')

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Location: battery
Sample Extracted?: True
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Location: station
Sample Extracted?: True
Holding Sample?: False
Charged? False
Holding Tool?: False
Dropped Off Sample?: True

Location: station
Sample Extracted?: True
Holding Sample?: True
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Location: sample
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Holding Sample?: True
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Holding Tool?: True
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DLS Result: (Location: battery
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