Solving Air Cargo Problem 1 using breadth\_first\_search...

# Actions Expansions Goal Tests New Nodes

20 43 56 178

Plan length: 6 Time elapsed in seconds: 0.0073676

Load(C1, P1, SFO)

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Fly(P1, SFO, JFK)

Unload(C1, P1, JFK)

Solving Air Cargo Problem 1 using depth\_first\_graph\_search...

# Actions Expansions Goal Tests New Nodes

20 21 22 84

Plan length: 20 Time elapsed in seconds: 0.0038401999999999998

Fly(P1, SFO, JFK)

Fly(P2, JFK, SFO)

Load(C2, P1, JFK)

Fly(P1, JFK, SFO)

Fly(P2, SFO, JFK)

Unload(C2, P1, SFO)

Fly(P1, SFO, JFK)

Fly(P2, JFK, SFO)

Load(C2, P2, SFO)

Fly(P1, JFK, SFO)

Load(C1, P2, SFO)

Fly(P2, SFO, JFK)

Fly(P1, SFO, JFK)

Unload(C2, P2, JFK)

Unload(C1, P2, JFK)

Fly(P2, JFK, SFO)

Load(C2, P1, JFK)

Fly(P1, JFK, SFO)

Fly(P2, SFO, JFK)

Unload(C2, P1, SFO)

Solving Air Cargo Problem 1 using uniform\_cost\_search...

# Actions Expansions Goal Tests New Nodes

20 60 62 240

Plan length: 6 Time elapsed in seconds: 0.0091748

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Load(C1, P2, SFO)

Unload(C2, P2, SFO)

Fly(P2, SFO, JFK)

Unload(C1, P2, JFK)

Solving Air Cargo Problem 1 using greedy\_best\_first\_graph\_search with h\_unmet\_goals...

# Actions Expansions Goal Tests New Nodes

20 7 9 29

Plan length: 6 Time elapsed in seconds: 0.0022942

Load(C1, P1, SFO)

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Fly(P1, SFO, JFK)

Unload(C1, P1, JFK)

Solving Air Cargo Problem 1 using greedy\_best\_first\_graph\_search with h\_pg\_levelsum...

# Actions Expansions Goal Tests New Nodes

20 6 8 28

Plan length: 6 Time elapsed in seconds: 0.3914758

Load(C1, P1, SFO)

Fly(P1, SFO, JFK)

Unload(C1, P1, JFK)

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Solving Air Cargo Problem 1 using greedy\_best\_first\_graph\_search with h\_pg\_maxlevel...

# Actions Expansions Goal Tests New Nodes

20 6 8 24

Plan length: 6 Time elapsed in seconds: 0.1151196

Load(C1, P1, SFO)

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Fly(P1, SFO, JFK)

Unload(C2, P2, SFO)

Unload(C1, P1, JFK)

Solving Air Cargo Problem 1 using greedy\_best\_first\_graph\_search with h\_pg\_setlevel...

# Actions Expansions Goal Tests New Nodes

20 6 8 28

Plan length: 6 Time elapsed in seconds: 0.4911116

Load(C1, P1, SFO)

Fly(P1, SFO, JFK)

Unload(C1, P1, JFK)

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Solving Air Cargo Problem 1 using astar\_search with h\_unmet\_goals...

# Actions Expansions Goal Tests New Nodes

20 50 52 206

Plan length: 6 Time elapsed in seconds: 0.0078852

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Load(C1, P2, SFO)

Fly(P2, SFO, JFK)

Unload(C1, P2, JFK)

Solving Air Cargo Problem 1 using astar\_search with h\_pg\_levelsum...

# Actions Expansions Goal Tests New Nodes

20 28 30 122

Plan length: 6 Time elapsed in seconds: 1.0695433

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Load(C1, P2, SFO)

Fly(P2, SFO, JFK)

Unload(C1, P2, JFK)

Solving Air Cargo Problem 1 using astar\_search with h\_pg\_maxlevel...

# Actions Expansions Goal Tests New Nodes

20 43 45 180

Plan length: 6 Time elapsed in seconds: 0.3913892

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Load(C1, P2, SFO)

Unload(C2, P2, SFO)

Fly(P2, SFO, JFK)

Unload(C1, P2, JFK)

#Solving Air Cargo Problem 1 using astar\_search with h\_pg\_setlevel...

# Actions Expansions Goal Tests New Nodes

20 33 35 138

Plan length: 6 Time elapsed in seconds: 1.1820969

Load(C2, P2, JFK)

Fly(P2, JFK, SFO)

Unload(C2, P2, SFO)

Load(C1, P2, SFO)

Fly(P2, SFO, JFK)

Unload(C1, P2, JFK)

* Which algorithm or algorithms would be most appropriate for planning in a very restricted domain (i.e., one that has only a few actions) and needs to operate in real time?
* Which algorithm or algorithms would be most appropriate for planning in very large domains (e.g., planning delivery routes for all UPS drivers in the U.S. on a given day)
* Which algorithm or algorithms would be most appropriate for planning problems where it is important to find only optimal plans?