

## Planning Project Heuristic Analysis

Problem #	heuristic	expansions	tests	new nodes	seconds	plan length	is optimal
Air Cargo 1	h_1	55	57	224	0.03	6	yes
Air Cargo 1	h_ignore_preconditions	41	43	170	0.03	6	yes
Air Cargo 1	h_pg_levelsum	11	13	50	0.62	6	yes
Air Cargo 1	breadth_first_search	43	56	180	0.03	6	yes
Air Cargo 1	depth_first_graph_search	12	13	48	0.01	12	NO
Air Cargo 1	uniform_cost_search	55	57	224	0.03	6	yes
Air Cargo 2	h_1	4853	4855	44041	10.33	9	yes
Air Cargo 2	h_ignore_preconditions	1450	1452	13303	3.74	9	yes
Air Cargo 2	h_pg_levelsum	86	88	841	56.85	9	yes
Air Cargo 2	breadth_first_search	3343	4609	30509	12.11	9	yes
Air Cargo 2	depth_first_graph_search	1669	1670	14863	12.26	1444	NO
Air Cargo 2	uniform_cost_search	4853	4855	44041	10.39	9	yes
Air Cargo 3	h_1	18223	18225	159618	47.76	12	yes
Air Cargo 3	h_ignore_preconditions	5040	5042	44944	14.60	12	yes
Air Cargo 3	h_pg_levelsum	316	318	2912	282.00	12	yes
Air Cargo 3	breadth_first_search	14663	18098	129631	92.88	12	yes
Air Cargo 3	depth_first_graph_search	592	593	4927	2.69	571	NO
Air Cargo 3	uniform_cost_search	18223	18225	159618	45.10	12	yes

### Conclusions:

1. depth\_first\_graph\_search does not find an optimal solution
2. h\_pg\_levelsum is the best heuristic in terms of expansions, test, new nodes, but is very slow
3. A\* search with h\_ignore\_preconditions is the fastest of all tested methods that return an optimal plan