Puzzle Number	Algorithm	Heuristic	Sltn length	Search path length	Execution time (seconds)	cost
1	UCS	N/A	2	10	0.249	2
1	GBFS	h1	2	10	0.218	2
1	GBFS	h2	2	10	0.07	2
1	GBFS	h3	2	10	0.07	2
1	GBFS	h4	2	10	0.51	2
1	A/A*	h1	2	10	0.062	2
1	A/A*	h2	2	10	0.065	2
1	A/A*	h3	2	10	0.068	2
1	A/A*	h4	2	10	0.543	2
2	UCS	N/A	10	1512	50.057	10
2	GBFS	h1	10	1736	58.195	10
2	GBFS	h2	10	1858	17.767	10
2	GBFS	h3	10	1305	11.683	10
2	GBFS	h4	10	1464	159.336	10
2	A/A*	h1	10	1740	19.037	10
2	A/A*	h2	10	1093	9.929	10
2	A/A*	h3	10	2060	19.739	10
2	A/A*	h4	10	1809	211.769	10
3	UCS	N/A	17	5383	136.381	17
3	GBFS	h1	17	5186	132.358	17
3	GBFS	h2	17	5349	40.898	17

3	GBFS	h3	17	5503	41.011	17
3	GBFS	h4	17	5147	384.616	17
3	A/A*	h1	17	5127	38.456	17
3	A/A*	h2	17	5339	46.981	17
3	A/A*	h3	17	5118	40.177	17
3	A/A*	h4	17	5204	375.536	17
4	UCS	N/A	N/A	N/A	2.735	N/A
4	GBFS	h1	N/A	N/A	3.138	N/A
4	GBFS	h2	N/A	N/A	1.636	N/A
4	GBFS	h3	N/A	N/A	0.889	N/A
4	GBFS	h4	N/A	N/A	7.427	N/A
4	A/A*	h1	N/A	N/A	0.86	N/A
4	A/A*	h2	N/A	N/A	1.031	N/A
4	A/A*	h3	N/A	N/A	0.974	N/A
4	A/A*	h4	N/A	N/A	7.149	N/A
5	UCS	N/A	N/A	N/A	7.017	N/A
5	GBFS	h1	N/A	N/A	7.849	N/A
5	GBFS	h2	N/A	N/A	2.673	N/A
5	GBFS	h3	N/A	N/A	2.364	N/A
5	GBFS	h4	N/A	N/A	16.845	N/A
5	A/A*	h1	N/A	N/A	2.491	N/A
5	A/A*	h2	N/A	N/A	2.894	N/A
5	A/A*	h3	N/A	N/A	2.564	N/A

5	A/A*	h4	N/A	N/A	20.765	N/A
6	UCS	N/A	32	787	18.89	32
6	GBFS	h1	32	761	18.945	32
6	GBFS	h2	32	775	9.059	32
6	GBFS	h3	32	800	5.992	32
6	GBFS	h4	32	806	50.898	32
6	A/A*	h1	32	773	6.108	32
6	A/A*	h2	32	845	6.986	32
6	A/A*	h3	32	819	6.437	32
6	A/A*	h4	32	811	53.312	32

1. All algorithms came up with the same total cost but had different execution time based on the algorithm and the heuristic used for gbfs and a_star. The execution time was significantly lower for 2nd and 3rd heuristic for the gbfs which were number of blocking vehicles and number of blocked positions multiplied by a constant(5). This makes sense as those heuristic algorithm were the better estimates and as gbfs only depends on the heuristic algorithms, it made a significant difference. For A* algorithms, the first three heuristic had the best execution time. In general A* had better execution time.

2. About the cost, there may be an error on our part since the cost to reach a goal is the same for all of the algorithms. Usually the A* algorithm guarantees to find the lowest cost solution path while the GBFS doesn't.

3. The search times for A* algorithms with heuristics h1, h2, h3 are similar and are comparable with GBFS with heuristic h2 and h3. Usually A* algorithms are slightly faster than GBFS. Although for some puzzles, UCS actually had a better execution time. In general an informed searched is faster.