by Hung Lo

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Assignment 3, in CSE 415, Autumn 2019.

Puzzle	Heuristic	Solved or Not	length of the solution path found	total cost of the path found	number of states expanded	MAX_OPEN_LENGTH.
[3,0,1,6,4,2,7,8,5]	UCS	Y	7	7	166	101
[3,0,1,6,4,2,7,8,5]	Hamming	Y	7	7	8	6
[3,0,1,6,4,2,7,8,5]	Manhattan	Y	7	7	9	8
[3,1,2,6,8,7,5,4,0]	UCS	Y	12	12	1490	898
[3,1,2,6,8,7,5,4,0]	Hamming	Y	12	12	96	72
[3,1,2,6,8,7,5,4,0]	Manhattan	Y	12	12	47	38
[4,5,0,1,2,8,3,7,6]	UCS	Y	14	14	4070	2290
[4,5,0,1,2,8,3,7,6]	Hamming	Y	14	14	196	127
[4,5,0,1,2,8,3,7,6]	Manhattan	Y	14	14	52	35
[0,8,2,1,7,4,3,6,5]	UCS	Y	16	16	7982	4700
[0,8,2,1,7,4,3,6,5]	Hamming	Y	16	16	617	365
[0,8,2,1,7,4,3,6,5]	Manhattan	Y	16	16	244	142

UCS solution path:

Solution path:	Solution path:	Solution path:	Solution path:
[[3, 0, 1]	[[3, 1, 2]	[[4, 5, 0]	[[0, 8, 2]
[6, 4, 2]	[6, 8, 7]	[1, 2, 8]	[1, 7, 4]
[7, 8, 5]]	[5, 4, 0]]	[3, 7, 6]]	[3, 6, 5]]
[[3, 1, 0]	[[3, 1, 2]	[[4, 0, 5]	[[1, 8, 2]
[6, 4, 2]	[6, 8, 0]	[1, 2, 8]	[0, 7, 4]
[7, 8, 5]]	[5, 4, 7]]	[3, 7, 6]]	[3, 6, 5]]
[[3, 1, 2]	[[3, 1, 2]	[[4, 2, 5]	[[1, 8, 2]
[6, 4, 0]	[6, 0, 8]	[1, 0, 8]	[3, 7, 4]
[7, 8, 5]]	[5, 4, 7]]	[3, 7, 6]]	[0, 6, 5]]
[[3, 1, 2]	[[3, 1, 2]	[[4, 2, 5]	[[1, 8, 2]
[6, 4, 5]	[6, 4, 8]	[1, 7, 8]	[3, 7, 4]
[7, 8, 0]]	[5, 0, 7]]	[3, 0, 6]]	[6, 0, 5]]
[[3, 1, 2]	[[3, 1, 2]	[[4, 2, 5]	[[1, 8, 2]

[6, 4, 5]	[6, 4, 8]	[1, 7, 8]	[3, 0, 4]
[7, 0, 8]]	[0, 5, 7]]	[3, 6, 0]]	[6, 7, 5]]
[[3, 1, 2]	[[3, 1, 2]	[[4, 2, 5]	[[1, 0, 2]
[6, 4, 5]	[0, 4, 8]	[1, 7, 0]	[3, 8, 4]
[0, 7, 8]]	[6, 5, 7]]	[3, 6, 8]]	[6, 7, 5]]
[[3, 1, 2]	[[3, 1, 2]	[[4, 2, 0]	[[0, 1, 2]
[0, 4, 5]	[4, 0, 8]	[1, 7, 5]	[3, 8, 4]
[6, 7, 8]]	[6, 5, 7]]	[3, 6, 8]]	[6, 7, 5]]
[[0, 1, 2]	[[3, 1, 2]	[[4, 0, 2]	[[3, 1, 2]
[3, 4, 5]	[4, 5, 8]	[1, 7, 5]	[0, 8, 4]
[6, 7, 8]]	[6, 0, 7]]	[3, 6, 8]]	[6, 7, 5]]
	[[3, 1, 2]	[[0, 4, 2]	[[3, 1, 2]
	[4, 5, 8]	[1, 7, 5]	[6, 8, 4]
	[6, 7, 0]]	[3, 6, 8]]	[0, 7, 5]]
	[[3, 1, 2]	[[1, 4, 2]	[[3, 1, 2]
	[4, 5, 0]	[0, 7, 5]	[6, 8, 4]
	[6, 7, 8]]	[3, 6, 8]]	[7, 0, 5]]

	[[3, 1, 2]	[[1, 4, 2]	[[3, 1, 2]
	[4, 0, 5]	[3, 7, 5]	[6, 0, 4]
	[6, 7, 8]]	[0, 6, 8]]	[7, 8, 5]]
	[[3, 1, 2]	[[1, 4, 2]	[[3, 1, 2]
	[0, 4, 5]	[3, 7, 5]	[6, 4, 0]
	[6, 7, 8]]	[6, 0, 8]]	[7, 8, 5]]
	[[0, 1, 2]	[[1, 4, 2]	[[3, 1, 2]
	[3, 4, 5]	[3, 0, 5]	[6, 4, 5]
	[6, 7, 8]]	[6, 7, 8]]	[7, 8, 0]]
		[[1, 0, 2]	[[3, 1, 2]
		[3, 4, 5]	[6, 4, 5]
		[6, 7, 8]]	[7, 0, 8]]
		[[0, 1, 2]	[[3, 1, 2]
		[3, 4, 5]	[6, 4, 5]
		[6, 7, 8]]	[0, 7, 8]]
			[[3, 1, 2]

			[0, 4, 5]
			[6, 7, 8]]
			[[0, 1, 2]
			[3, 4, 5]
			[6, 7, 8]]