

HeuristicSearches.pdf

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Assignment 2 Report -- Heuristic Search

CSE 415: Introduction to Artificial Intelligence

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1. Results with Heuristics for the Eight Puzzle

	Puzzle	Heuristic	Solved	# Soln Edges	Soln cost	# expanded	Max OPEN
A	[3,0,1,6,4,2,7,8,5]	None (UCS)	Y	7	7	166	101
A	[3,0,1,6,4,2,7,8,5]	Hamming (A*)	Y	7	7	7	6
A	[3,0,1,6,4,2,7,8,5]	Manhattan (A*)	Y	7	7	7	6
B	[3,1,2,6,8,7,5,4,0]	None (UCS)	Y	12	12	1490	898
B	[3,1,2,6,8,7,5,4,0]	Hamming (A*)	Y	12	12	94	72
B	[3,1,2,6,8,7,5,4,0]	Manhattan (A*)	Y	12	12	33	25
C	[4,5,0,1,2,8,3,7,6]	None (UCS)	Y	14	14	4070	2290

C	[4,5,0,1,2,8,3,7,6]	Hamming (A*)	Y	14	14	189	127
C	[4,5,0,1,2,8,3,7,6]	Manhattan (A*)	Y	14	14	56	39
D	[0,8,2,1,7,4,3,6,5]	None (UCS)	Y	16	16	7982	4700
D	[0,8,2,1,7,4,3,6,5]	Hamming (A*)	Y	16	16	589	368
D	[0,8,2,1,7,4,3,6,5]	Manhattan (A*)	Y	16	16	148	96

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

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

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

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