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Assignment 2 Report -- Heuristic Search

CSE 415: Introduction to Artificial Intelligence
 Winter, 2023

1. Results with Heuristics for the Eight Puzzle

Puzzle	Heuristic	Solved?	# Soln	Edges	Soln Cost	# Expanded
Max OPEN						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
A	none (UCS)	Y	7	7.0	166	
101						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
A	Hamming	Y	7	7.0	7	
6						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
A	Manhattan	Y	7	7.0	7	
6						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
B	none (UCS)	Y	12	12.0	1490	
898						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
B	Hamming	Y	12	12.0	94	
72						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
B	Manhattan	Y	12	12.0	33	
25						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
C	none (UCS)	Y	14	14.0	4070	
2290						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
C	Hamming	Y	14	14.0	189	
127						
+-----+-----+-----+-----+-----+-----+-----+						
+-----+						
C	Manhattan	Y	14	14.0	56	

39									
+-----+									
D		none (UCS)		Y		16		16.0	7982
4700									
+-----+									
D		Hamming		Y		16		16.0	589
368									
+-----+									
D		Manhattan		Y		16		16.0	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]