

A2\_Report.pdf

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## Assignment 2 Report -- Heuristic Search

CSE 415: Introduction to Artificial Intelligence  
Winter, 2021

### 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]

## 2. (Optional) Evaluating Our Custom Heuristics