CSE 415: Introduction to Artificial Intelligence Assignment II Tianyuan Fu (1974487) tyfu@uw.edu

n left:3 n left:3 on right:0 on right:0 t is on the left. n left:2 n left:2 on right:1 on right:1 t is on the right.	M on left:3 C on left:3 M on right:0 C on right:0 boat is on the left. M on left:2 C on left:2 M on right:1 C on right:1 boat is on the right.
n left:3 on right:0 on right:0 t is on the left. n left:2 n left:2 on right:1 on right:1	C on left:3 M on right:0 C on right:0 boat is on the left. M on left:2 C on left:2 M on right:1 C on right:1
on right:0 on right:0 t is on the left. on left:2 on right:1 on right:1	M on right:0 C on right:0 boat is on the left. M on left:2 C on left:2 M on right:1 C on right:1
on right:0 t is on the left. n left:2 n left:2 on right:1 on right:1	C on right:0 boat is on the left. M on left:2 C on left:2 M on right:1 C on right:1
t is on the left. n left:2 n left:2 on right:1 on right:1	boat is on the left. M on left:2 C on left:2 M on right:1 C on right:1
n left:2 1 left:2 on right:1 on right:1	M on left:2 C on left:2 M on right:1 C on right:1
n left:2 on right:1 on right:1	C on left:2 M on right:1 C on right:1
n left:2 on right:1 on right:1	C on left:2 M on right:1 C on right:1
on right:1 on right:1	M on right:1 C on right:1
on right:1	C on right:1
t is on the right.	boat is on the right.
	J
1-4· o	M l-ft-o
n left:3	M on left:3
n left:2	C on left:2
on right:0	M on right:0
	C on right:1
t is on the left.	boat is on the left.
n left o	M on left:1
	C on left:1
	M on right:2
	C on right:2
t is on the right.	boat is on the right.
n left•o	M on left:2
	C on left:2
	M on right:1
	C on right:1
t is on the left.	boat is on the left.
n loft-1	M on left:o
	C on left:1
	M on right:3
	C on right:2
t is on the right.	boat is on the right.
n left•2	M on left:1
•	C on left:1
	M on right:2
	C on right:2
t is on the left.	boat is on the left.
n left:0	M on left:o
n left:1	C on left:0
	C On lettin
	on right:1 t is on the left. on left:0 on left:2 on right:1 t is on the right. on left:2 on right:1 on right:1 t is on the left. on left:2 on right:1 on right:1 t is on the left. on left:1 on right:2 on right:2 on right:2 t is on the right. on left:1 on right:2 t is on the left. on left:3 on left:1 on right:0 on right:2 t is on the left.

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	C on right:2 boat is on the right.	C on right:3 boat is on the right.
	M on left:1 C on left:1 M on right:2 C on right:2 boat is on the left.	
	M on left:0 C on left:0 M on right:3 C on right:3 boat is on the right.	
Path length	9	7
No. of expanded	10	10

Farmer, Fox, Chicken, and Grain		
	DFS	BFS
Path to the goal	The farmer is on the left The fox is on the left The chicken is on the left The grain is on the left The boat is on the left.	The farmer is on the left The fox is on the left The chicken is on the left The grain is on the left The boat is on the left.
	The farmer is on the right The fox is on the left The chicken is on the right The grain is on the left The boat is on the right.	The farmer is on the right The fox is on the left The chicken is on the right The grain is on the left The boat is on the right.
	The farmer is on the left The fox is on the left The chicken is on the right The grain is on the left The boat is on the left.	The farmer is on the left The fox is on the left The chicken is on the right The grain is on the left The boat is on the left.
	The farmer is on the right The fox is on the right The chicken is on the right The grain is on the left The boat is on the right.	The farmer is on the right The fox is on the left The chicken is on the right The grain is on the right The boat is on the right.
	The farmer is on the left The fox is on the right The chicken is on the left The grain is on the left	The farmer is on the left The fox is on the left The chicken is on the left The grain is on the right

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	The boat is on the left.	The boat is on the left.
	The farmer is on the right The fox is on the right The chicken is on the left The grain is on the right The boat is on the right.	The farmer is on the right The fox is on the right The chicken is on the left The grain is on the right The boat is on the right.
	The farmer is on the left The fox is on the right The chicken is on the left The grain is on the right The boat is on the left.	The farmer is on the left The fox is on the right The chicken is on the left The grain is on the right The boat is on the left.
	The farmer is on the right The fox is on the right The chicken is on the right The grain is on the right The boat is on the right.	The farmer is on the right The fox is on the right The chicken is on the right The grain is on the right The boat is on the right.
Path length	7	7
No. of expanded	8	10

4-Disk Towers of Hand	i	
•	DFS	BFS
Path to the goal	[[4, 3, 2, 1],[],[]]	[[4, 3, 2, 1],[],[]]
	[[4, 3, 2],[1],[]]	[[4, 3, 2],[1],[]]
	[[4, 3],[1],[2]]	[[4, 3],[1],[2]]
	[[4, 3, 1],[],[2]]	[[4, 3, 1],[],[2]]
	[[4, 3],[],[2, 1]]	[[4, 3],[],[2, 1]]
	[[4],[3],[2,1]]	[[4],[3],[2,1]]
	[[4, 1],[3],[2]]	[[4, 1],[3],[2]]
	[[4],[3,1],[2]]	[[4, 1],[3, 2],[]]
	[[4, 2],[3, 1],[]]	[[4],[3, 2, 1],[]]
	[[4, 2, 1],[3],[]]	[[],[3, 2, 1],[4]]
	[[4, 2],[3],[1]]	[[1],[3,2],[4]]
	[[4],[3,2],[1]]	[[],[3,2],[4,1]]
	[[4, 1], [3, 2], []]	[[2],[3],[4,1]]
	[[4],[3, 2, 1],[]]	[[2, 1],[3],[4]]
	[[],[3, 2, 1],[4]]	[[2, 1],[],[4, 3]]
	[[1],[3, 2],[4]]	[[2],[1],[4,3]]
	[[],[3, 2],[4, 1]]	[[],[1],[4, 3, 2]]
	[[2],[3],[4,1]]	[[1],[],[4, 3, 2]]
	[[2, 1],[3],[4]]	[[],[],[4,3,2,1]]
	[[2],[3,1],[4]]	
	[[],[3,1],[4,2]]	
	[[1],[3],[4,2]]	
	[[],[3],[4, 2, 1]]	
	[[3],[],[4, 2, 1]]	
	[[3, 1],[],[4, 2]]	
	[[3],[1],[4, 2]]	

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	[[3, 2],[1],[4]] [[3, 2, 1],[],[4]] [[3, 2],[],[4, 1]] [[3],[2],[4, 1]] [[3],[2],[4]] [[3],[2, 1],[4]] [[1],[2],[4, 3]] [[1],[2],[4, 3, 1]] [[2],[1],[4, 3, 1]] [[2],[1],[4, 3, 1]] [[2],[1],[4, 3, 2]] [[1],[1],[4, 3, 2]] [[1],[1],[4, 3, 2]] [[1],[1],[4, 3, 2]] [[1],[1],[4, 3, 2, 1]]	
Path length	40	18
No. of expanded	40	63