Farmer, Fox, Chicken, and Grain BFS DFS BFS DFS BFS DFS len(OPEN)=1; len(OPEN)=1; len(OPEN)=3; len(OPEN)=3; len(CLOSED)= len(CLOSED)							
Chicken, and Grain BFS DFS BFS DFS BFS DFS len(OPEN)=1; len(COSED)= len(COSED)= len(COSED)= len(CLOSED)= len(CDSED)= len(CDSED	Farmer,						
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len(OPEN)=3; len(OPEN)=3; len(CLOSED)= len(C	and Grain			Cannibals			Hanoi
len(OPEN)=3; len(OPEN)=3; len(CLOSED)= len(C		BFS	DFS		BFS	DFS	
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Fox on Fox on LEFT:1 LEFT:1 C on left:3 C on left:3 Chicken on Chicken on M on M on LEFT:1 LEFT:1 right:0 right:0 grain on grain on LEFT:1 LEFT:1 C on right:0 C on right:0 boat is on boat is on the left. the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		Farmer on	Farmer on				
LEFT:1 LEFT:1 C on left:3 C on left:3 Chicken on Chicken on M on M on LEFT:1 LEFT:1 right:0 right:0 grain on grain on LEFT:1 LEFT:1 C on right:0 C on right:0 boat is on boat is on the left. the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		LEFT:1	LEFT:1		M on left:3	M on left:3	
Chicken on Chicken on M on M on LEFT:1 LEFT:1 right:0 right:0 grain on grain on LEFT:1 LEFT:1 C on right:0 C on right:0 boat is on boat is on the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		Fox on	Fox on				
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grain on grain on LEFT:1 LEFT:1 C on right:0 C on right:0 boat is on boat is on the left. the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		Chicken on	Chicken on		M on	M on	
LEFT:1 C on right:0 C on right:0 boat is on the left. the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		LEFT:1			right:0	right:0	
boat is on boat is on the left. Farmer on Farmer on right:0 right:0 Fox on Fox on		_	•				
the left. the left. Farmer on right:0 right:0 Fox on Fox on		LEFT:1	LEFT:1		ŭ	C on right:0	
Farmer on Farmer on right:0 right:0 Fox on							
right:0 right:0 Fox on Fox on		_	_		the left.	the left.	
Fox on Fox on							
		_	_				
right:U right:U							
Chicken on Chicken on		_	•				

Chicken on Chicken on right:0 right:0 grain on grain on right:0 right:0 boat is on boat is on the LEFT. the LEFT.

C on left:2 C on left:2 M on M on right:1 right:1 C on right:1 C on right:1 boat is on boat is on the right. the right.

M on left:2

M on left:2

Farmer on Farmer on LEFT:0 LEFT:0 Fox on Fox on LEFT:1 LEFT:1

Chicken on LEFT:0 grain on	Chicken on LEFT:0 grain on	M on left:3	M on left:3
LEFT:1	LEFT:1	C on left:2 M on right:0	C on left:2 M on right:0
Farmer on right:1 Fox on right:0 Chicken on right:1 grain on right:0 boat is on	Farmer on right:1 Fox on right:0 Chicken on right:1 grain on right:0 boat is on	C on right:1 boat is on the left.	C on right:1 boat is on the left.
the right.	the right.	M on left:0 C on left:2 M on right:3	M on left:0 C on left:2 M on right:3
Farmer on LEFT:1 Fox on LEFT:1 Chicken on LEFT:0 grain on LEFT:1	Farmer on LEFT:1 Fox on LEFT:1 Chicken on LEFT:0 grain on LEFT:1	C on right:1 boat is on the right.	C on right:1 boat is on the right.
F	F annan an	M on left:2	M on left:2
Farmer on right:0 Fox on right:0 Chicken on	Farmer on right:0 Fox on right:0 Chicken on	C on left:2 M on right:1	C on left:2 M on right:1
right:1 grain on right:0 boat is on the LEFT.	right:1 grain on right:0 boat is on the LEFT.	C on right:1 boat is on the left.	C on right:1 boat is on the left.
Farmer on	Farmer on	M on left:0	M on left:1
Farmer on LEFT:0 Fox on LEFT:0	LEFT:0 Fox on LEFT:0	C on left:1 M on right:3	C on left:1 M on right:2
Chicken on LEFT:0	Chicken on LEFT:0	C on right:2	C on right:2

grain on LEFT:1	grain on LEFT:1	boat is on the right.	boat is on the right.
Farmer on right:1 Fox on right:1 Chicken on right:1 grain on right:0 boat is on the right.	Farmer on right:1 Fox on right:1 Chicken on right:1 grain on right:0 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:3 C on left:1 M on right:0 C on right:2 boat is on the left.
Farmer on	Farmer on	the left.	the left.
LEFT:1 Fox on LEFT:0 Chicken on	LEFT:1 Fox on LEFT:0 Chicken on	M on left:0	M on left:0
LEFT:1 grain on LEFT:1	LEFT:1 grain on LEFT:1	C on left:0 M on right:3	C on left:1 M on right:3
Farmer on right:0 Fox on right:1	Farmer on right:0 Fox on right:1	C on right:3 boat is on the right.	C on right:2 boat is on the right.
Chicken on right:0	Chicken on right:0	Length of solution path found: 7 edges	
grain on right:0 boat is on the LEFT.	grain on right:0 boat is on the LEFT.	8 states expanded. MAX_OPEN_ LENGTH = 3	M on left:1 C on left:1 M on
Farmer on LEFT:0 Fox on LEFT:0 Chicken on LEFT:1	Farmer on LEFT:0 Fox on LEFT:0 Chicken on LEFT:1		right:2 C on right:2 boat is on the left.

grain on grain on LEFT:0 LEFT:0

Farmer on Farmer on right:1 right:1
Fox on Fox on right:1 right:1
Chicken on Chicken on right:0 grain on grain on

boat is on boat is on the right.

right:1

right:1

LEFT:0

Farmer on Farmer on LEFT:1 LEFT:1 Fox on Fox on LEFT:0 Chicken on LEFT:1 LEFT:1 grain on grain on

LEFT:0

Farmer on Farmer on right:0 right:0 Fox on Fox on right:1 right:1 Chicken on Chicken on right:0 right:0 grain on grain on right:1 right:1 boat is on boat is on the LEFT. the LEFT.

Farmer on
LEFT:0
Fox on
LEFT:0
Chicken on
LEFT:0
LEFT:0
LEFT:0
LEFT:0
LEFT:0

M on left:0 C on left:0 M on right:3

C on right:3 boat is on the right.

Length of solution path found: 9 edges 10 states expanded. MAX_OPEN_ LENGTH = 2 grain on grain on LEFT:0 LEFT:0

Farmer on Farmer on right:1 right:1 Fox on Fox on right:1 right:1 Chicken on Chicken on right:1 right:1 grain on grain on right:1 right:1 boat is on boat is on the right. the right.

Length of Length of solution path found: 7 found: 7 edges edges 8 states expanded.

MAX_OPEN_ MAX_OPEN_ LENGTH = 3 LENGTH = 3

BFS DFS

len(OPEN)=14; len(OPEN)=5;
len(CLOSED)=67; len(CLOSED)=40;
COUNT = 67 COUNT = 40

The Tower Transport	The Tower Transport
is Triumphant!	is Triumphant!

Solution path: Solution path: [[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, 1],[2],[]] [[4, 3],[],[2, 1]]

[[4, 3], [2, 1], []] [[4], [3], [2, 1]]

[[4],[2,1],[3]] [[4,1],[3],[2]]

[[4, 1],[2],[3]] [[4],[3, 1],[2]]

[[4, 1],[],[3, 2]] [[4, 2],[3, 1],[]]

[[4],[1],[3,2]] [[4,2,1],[3],[]]

[[4, 2],[1],[3]] [[4, 2],[3],[1]] [[4, 2, 1],[],[3]] [[4],[3, 2],[1]]

[[4, 2, 1],[3],[]] [[4, 1],[3, 2],[]]

[[4, 2],[3, 1],[]] [[4],[3, 2, 1],[]]

[[4],[3, 1],[2]] [[],[3, 2, 1],[4]]

[[4, 1], [3], [2]]	[[1], [3, 2], [4]]

$$[[]\,,[]\,,[4,\,3,\,2,\,1]] \qquad \qquad [[3,\,2]\,,[]\,,[4,\,1]]$$
 Length of solution

path found: 28 edges [[3],[2],[4, 1]]

= 2 [[3],[2,1],[4]]

[[],[],[4, 3, 2, 1]] Length of solution path found: 40 edges

40 states expanded.
MAX_OPEN_LENGTH
= 7