

Problem	Search Algorithm	Solution Path	Length of Path	Number of Nodes Expanded
Missionaries and Cannibals	DFS	<p>M on left:3 C on left:3 M on right:0 C on right:0 boat is on the left.</p> <p>M on left:2 C on left:2 M on right:1 C on right:1 boat is on the right.</p> <p>M on left:3 C on left:2 M on right:0 C on right:1 boat is on the left.</p> <p>M on left:0 C on left:2 M on right:3 C on right:1 boat is on the right.</p> <p>M on left:2 C on left:2 M on right:1 C on right:1 boat is on the left.</p> <p>M on left:1 C on left:1 M on right:2 C on right:2</p>	9 edges	10 nodes

		<p>boat is on the right.</p> <p>M on left:3 C on left:1 M on right:0 C on right:2 boat is on the left.</p> <p>M on left:0 C on left:1 M on right:3 C on right:2 boat is on the right.</p> <p>M on left:1 C on left:1 M on right:2 C on right:2 boat is on the left.</p> <p>M on left:0 C on left:0 M on right:3 C on right:3 boat is on the right.</p>		
Missionaries and Cannibals	BFS	<p>M on left:3 C on left:3 M on right:0 C on right:0 boat is on the left.</p> <p>M on left:2 C on left:2 M on right:1 C on right:1</p>	7 edges	10 nodes

		<p>boat is on the right.</p> <p>M on left:3 C on left:2 M on right:0 C on right:1 boat is on the left.</p> <p>M on left:1 C on left:1 M on right:2 C on right:2 boat is on the right.</p> <p>M on left:3 C on left:1 M on right:0 C on right:2 boat is on the left.</p> <p>M on left:0 C on left:1 M on right:3 C on right:2 boat is on the right.</p> <p>M on left:1 C on left:1 M on right:2 C on right:2 boat is on the left.</p> <p>M on left:0 C on left:0</p>		
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		M on right:3 C on right:3 boat is on the right.		
Farmer, Fox, Chicken, and Grain	DFS	Farmer on left side of river Fox on left side of river Chicken on left side of river Grain on left side of river Farmer on right side of river Fox on left side of river Chicken on right side of river Grain on left side of river Farmer on left side of river Fox on left side of river Chicken on right side of river Grain on left side of river	7 edges	7 nodes

		<p>Farmer on right side of river</p> <p>Fox on right side of river</p> <p>Chicken on right side of river</p> <p>Grain on left side of river</p> <p>Farmer on left side of river</p> <p>Fox on right side of river</p> <p>Chicken on left side of river</p> <p>Grain on left side of river</p> <p>Farmer on right side of river</p> <p>Fox on right side of river</p> <p>Chicken on left side of river</p> <p>Grain on right side of river</p> <p>Farmer on left side of river</p> <p>Fox on right side of river</p>		
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		<p>Chicken on left side of river</p> <p>Grain on right side of river</p> <p>Farmer on right side of river</p> <p>Fox on right side of river</p> <p>Chicken on right side of river</p> <p>Grain on right side of river</p>		
Farmer, Fox, Chicken, and Grain	BFS	<p>Farmer on left side of river</p> <p>Fox on left side of river</p> <p>Chicken on left side of river</p> <p>Grain on left side of river</p> <p>Farmer on right side of river</p> <p>Fox on left side of river</p> <p>Chicken on right side of river</p> <p>Grain on left side of river</p>	7 edges	9 nodes

		<p>Farmer on left side of river</p> <p>Fox on left side of river</p> <p>Chicken on right side of river</p> <p>Grain on left side of river</p> <p>Farmer on right side of river</p> <p>Fox on left side of river</p> <p>Chicken on right side of river</p> <p>Grain on right side of river</p> <p>Farmer on left side of river</p> <p>Fox on left side of river</p> <p>Chicken on left side of river</p> <p>Grain on right side of river</p> <p>Farmer on right side of river</p> <p>Fox on right side of river</p>		
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		<p>Chicken on left side of river</p> <p>Grain on right side of river</p> <p>Farmer on left side of river</p> <p>Fox on right side of river</p> <p>Chicken on left side of river</p> <p>Grain on right side of river</p> <p>Farmer on right side of river</p> <p>Fox on right side of river</p> <p>Chicken on right side of river</p> <p>Grain on right side of river</p>		
Disk Towers of Hanoi	DFS	<p>[[4, 3, 2, 1], [], []]</p> <p>[[4, 3, 2], [1], []]</p> <p>[[4, 3], [1], [2]]</p> <p>[[4, 3, 1], [], [2]]</p> <p>[[4, 3], [], [2, 1]]</p> <p>[[4], [3], [2, 1]]</p> <p>[[4, 1], [3], [2]]</p> <p>[[4], [3, 1], [2]]</p> <p>[[4, 2], [3, 1], []]</p> <p>[[4, 2, 1], [3], []]</p> <p>[[4, 2], [3], [1]]</p> <p>[[4], [3, 2], [1]]</p>	40 edges	40 nodes

		[[4, 1],[3, 2],[[4],[3, 2, 1],[[],[3, 2, 1],[4] [1],[3, 2],[4] [],[3, 2],[4, 1] [2],[3],[4, 1] [2, 1],[3],[4] [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] [3, 2],[1],[4] [3, 2, 1],[],[4] [3, 2],[],[4, 1] [3],[2],[4, 1] [3, 1],[2],[4] [3],[2, 1],[4] [],[2, 1],[4, 3] [1],[2],[4, 3] [],[2],[4, 3, 1] [2],[],[4, 3, 1] [2, 1],[],[4, 3] [2],[1],[4, 3] [],[1],[4, 3, 2] [1],[],[4, 3, 2] [],[],[4, 3, 2, 1]]		
Disk Towers of Hanoi	BFS	[[4, 3, 2, 1],[,[] [4, 3, 2],[1],[[4, 3],[1],[2] [4, 3, 1],[],[2] [4, 3],[],[2, 1] [4],[3],[2, 1] [4, 1],[3],[2] [4, 1],[3, 2],[[4],[3, 2, 1],[[],[3, 2, 1],[4] [1],[3, 2],[4] [],[3, 2],[4, 1] [2],[3],[4, 1] [2, 1],[3],[4] [2, 1],[],[4, 3]]	18 edges	70 nodes

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