	DFS	BFS

Missionaries and Cannibals	Solution path:
	
	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.
	
	M on left:3
	C on left:2
	  M on right:0
	  C on right:1
	boat is on the left.
	
	M on left:0
	C on left:2
	  M on right:3
	  C on right:1
	boat is on the right.
	
	M on left:2
	C on left:2
	  M on right:1
	  C on right:1
	boat is on the left.
		Solution path:
		
		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.
		
		M on left:3
		C on left:2
		  M on right:0
		  C on right:1
		boat is on the left.
		
		M on left:1
		C on left:1
		  M on right:2
		  C on right:2
		boat is on the right.
		
		M on left:3
		C on left:1
		  M on right:0
		  C on right:2
		boat is on the left.

	M on left:1
	C on left:1
	  M on right:2
	  C on right:2
	boat is on the right.
	
	M on left:3
	C on left:1
	  M on right:0
	  C on right:2
	boat is on the left.
	
	M on left:0
	C on left:1
	  M on right:3
	  C on right:2
	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.
	
	Length of solution path found: 9 edges
	10 states expanded.
	MAX_OPEN_LENGTH = 2
	
	The length of path: 9
	The number of nodes expanded: 10
		M on left:0
		C on left:1
		  M on right:3
		  C on right:2
		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.
		
		Length of solution path found: 7 edges
		10 states expanded.
		MAX_OPEN_LENGTH = 2
		
		The length of path: 7
		The number of nodes expanded: 10

Farmer, Fox, Chicken, and Grain	Solution path: Left bank: Farmer Fox Chicken Grain Boat side: left Right bank: Left bank: Fox Grain Boat side: right Right bank: Chicken Farmer Left bank: Fox Grain Farmer Boat side: left Right bank: Chicken Left bank: Grain Boat side: right Right bank: Chicken Fox Farmer Left bank: Grain Fox Farmer Boat side: left Right bank: Chicken	Solution path: Left bank: Farmer Fox Chicken Grain Boat side: left Right bank: Left bank: Fox Grain Boat side: right Right bank: Chicken Farmer Left bank: Fox Grain Farmer Boat side: left Right bank: Chicken Left bank: Grain Boat side: right Right bank: Chicken Fox Farmer Left bank: Grain Chicken Farmer Boat side: left Right bank: Fox

	Left bank: Fox Boat side: right Right bank: Chicken Grain Farmer Left bank: Fox Chicken Farmer Boat side: left Right bank: Grain Left bank: Chicken Boat side: right Right bank: Grain Fox Farmer Left bank: Chicken Farmer Boat side: left Right bank: Grain Fox Left bank: Boat side: right Right bank: Grain Fox Chicken Farmer Length of solution path found: 9 edges 11 states expanded. MAX_OPEN_LENGTH = 6 The length of path: 9 The number of nodes expanded: 11	Left bank: Chicken Boat side: right Right bank: Fox Grain Farmer Left bank: Chicken Farmer Boat side: left Right bank: Fox Grain Left bank: Boat side: right Right bank: Fox Grain Chicken Farmer Length of solution path found: 7 edges 19 states expanded. MAX_OPEN_LENGTH = 6 The length of path: 7 The number of nodes expanded: 19

4-Disk Towers of Hanoi	Solution path: [[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] ,[3, 1] ,[2]] [[4, 2] ,[3, 1] ,[]] [[4, 2, 1] ,[3] ,[]] [[4, 2] ,[3] ,[1]] [[4] ,[3, 2] ,[1]] [[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]] Length of solution path found: 40 edges 40 states expanded. MAX_OPEN_LENGTH = 7 The length of path: 40 The number of nodes expanded: 40	Solution path: [[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]] [[2] ,[1] ,[4, 3]] [[] ,[1] ,[4, 3, 2]] [[1] ,[] ,[4, 3, 2]] [[] ,[] ,[4, 3, 2, 1]] Length of solution path found: 18 edges 70 states expanded. MAX_OPEN_LENGTH = 16 The length of path: 18 The number of nodes expanded: 70