Blind Search Comparison

		Path to goal	Length of path	# of nodes expanded
DFS	Missionaries	DFS_Missionary	9	10
BFS	Missionaries	BFS_Missionary	7	10
DFS	Farmer Fox	DFS_FarmerFox	7	7
BFS	Farmer Fox	BFS_FarmerFox	7	9
DFS	4-Disk ToH	DFS_4-Disk ToH	40	40
BFS	4-Disk ToH	BFS_4-Disk ToH	18	70

DFS_FarmerFox

Solution path:

['C', 'Fa', 'Fo', 'G'] || []

Boat is on the left.

['Fo', 'G'] || ['C', 'Fa']

Boat is on the right.

['Fa', 'Fo', 'G'] || ['C']

Boat is on the left.

['G'] || ['C', 'Fa', 'Fo']

Boat is on the right.

['C', 'Fa', 'G'] || ['Fo']

Boat is on the left.

['C'] || ['Fa', 'Fo', 'G']

Boat is on the right.

['C', 'Fa'] || ['Fo', 'G']

Boat is on the left.

[] || ['C', 'Fa', 'Fo', 'G']

Boat is on the right.

BFS_FarmerFox

Solution path:

['C', 'Fa', 'Fo', 'G'] || []

Boat is on the left.

['Fo', 'G'] || ['C', 'Fa']

Boat is on the right.

['Fa', 'Fo', 'G'] || ['C']

Boat is on the left.

['Fo'] || ['C', 'Fa', 'G']

Boat is on the right.

['C', 'Fa', 'Fo'] || ['G']

Boat is on the left.

['C'] || ['Fa', 'Fo', 'G']

Boat is on the right.

['C', 'Fa'] || ['Fo', 'G']

Boat is on the left.

[] || ['C', 'Fa', 'Fo', 'G']

Boat is on the right.

Length of solution path found: 7 edges

9 states expanded.

MAX_OPEN_LENGTH = 2

DFS_Missionary

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.

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.

BFS_Missionary

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: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.

DFS_4-Disk ToH

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]]

BFS_4-Disk ToH

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]]