

Matrix (directed)
Destination

Origin	0	1	2	3	4	5	6	7	8	9	10
0		1					1				
1			1								
2											
3					1						
4	1					1				1	
5										1	
6		1						1			
7											
8	1			1				1			
9				1							
10										1	

List

0 → 1 → 3 → 6
 1 → 2
 2
 3 → 4
 4 → 0 → 5 → 10
 5 → 9
 6 → 1 → 7
 7
 8 → 0 → 3 → 7
 9 → 3
 10 → 9

Traverse

Depth (Stack)

Visited

0	1	2	3	4	5	6	7	8	9	10
✓										
✓	✓	✓								
✓	✓	✓								
✓	✓	✓					✓			
✓	✓	✓					✓	✓		
✓	✓	✓	✓				✓	✓		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Stack

0
 0 1 2 Push 1 path
 0 X X Pop back to unseen
 0 6 Push, skip 1
 0 6 7 Push 6 path
 0 X X Pop seen
 0 3 Push 3 path
 0 3 4 5 9 Push 4, skip 0
 0 3 4 X X Pop to 4
 0 3 4 10 Push 10, skip 9

— Whop 9, no path to 8. starting @ 8...

								✓		
								✓	✓	
								✓	✓	
✓	✓	✓					✓	✓	✓	
✓	✓	✓					✓	✓	✓	
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✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
0	1	2	3	4	5	6	7	8	9	10
Visited										

8
 8 7 Push 7 path
 8 Pop
 8 0 6 1 2 Push 6 path
 8 0 Pop
 8 0 3 4 5 9 Push 3 path
 8 0 3 4 Pop to 4
 8 0 3 4 10 Push 10 path

CS 372

Graph HW

Cordery Siley

Traverse
Breadth (Queue)

Visited

Queue

0 1 2 3 4 5 6 7 8 9 10

✓			✓					✓	✓	
✓			✓					✓	✓	
✓			✓					✓	✓	
✓	✓		✓					✓	✓	✓
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✓	✓		✓	✓				✓	✓	✓
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✓	✓	✓	✓	✓				✓	✓	✓
✓	✓	✓	✓	✓				✓	✓	✓
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✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

8
8 7 0 3
7 0 3
0 3
0 3 6 1
3 6 1
3 6 1 4
6 1 4
1 4
1 4 2
4 2
4 2 5 10
2 5 10
5 10
5 10 9

start
 Push 8 links
 Pop 8
 No 7 links, Pop 7
 Push 0 links
 Pop 0
 Push 3 links
 Pop 3
 No new links @ 6, Pop 6
 Push 1 links
 Pop 1
 Push 4 links
 Pop 4
 No 2 links, Pop 2
 Push 5 links