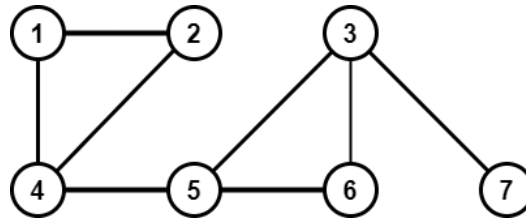


CSE 101
Fall 2020
Quiz 2

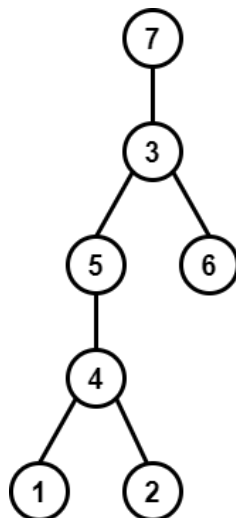
1. (25 Points) Run the [BFS algorithm](#) on the graph pictured below, with vertex 7 as the source. Fill in the table giving the adjacency list representation, colors, distances from the source and parents in the BFS tree. List the discovered vertices in the order that they enter the queue. Draw the resulting BFS tree.



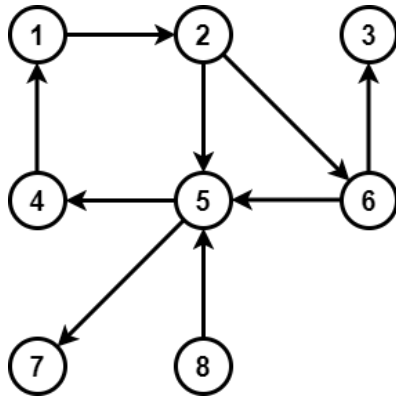
<i>vertex</i>	<i>adj</i>	<i>color</i>	<i>distance</i>	<i>parent</i>
1	2 4	black	4	4
2	1 4	black	4	4
3	5 6 7	black	1	7
4	1 2 5	black	3	5
5	3 4 6	black	2	3
6	3 5	black	2	3
7	3	black	0	nil

Queue: 7 3 5 6 4 1 2

BFS Tree:



2. (25 Points) Run the [BFS algorithm](#) on the digraph pictured below, with vertex **6** as the source. Fill in the table giving the adjacency list representation, colors, distances from the source and parents in the BFS tree. List the discovered vertices in the order that they enter the queue. Draw the resulting BFS tree



vertex	adj	color	distance	parent
1	2	black	3	4
2	5 6	black	4	1
3		black	1	6
4	1	black	2	5
5	4 7	black	1	6
6	3 5	black	0	nil
7		black	2	5
8	5	white	infinity	nil

Queue: 6 3 5 4 7 1 2

BFS Tree:

