

1 Graph Representation

Represent the graph with adjacency list and adjacency matrix representation.

		A	B	C	D	E	F
A	B, E						
B	C						
C	D, F						
D	B, F						
E	F						
F	A						

2 Depth First Search

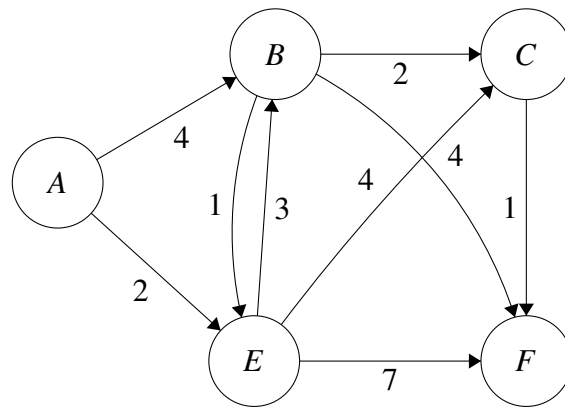
Run DFS on the same graph, starting from node A. List the order in which each node is traversed. Whenever there is a choice of which node to visit next, visit nodes in alphabetical order. **A, B, C, D, F, E**

3 Breadth First Search

Run BFS on the same graph this time. **A, B, E, C, F, D**

4 Dijkstra's Algorithm

Given the following graph, write down the value $\text{dist}(v)$ for all vertices V during each iteration of the Dijkstra algorithm, starting at point A.



A	0	0	0	0	0
B	∞	∞	4	4	4
C	∞	∞	∞	6	6
E	∞	2	2	2	2
F	∞	∞	∞	∞	7

5 Topological Sorting

Given the following graph, give a valid topological ordering of the graph. Is it unique?

