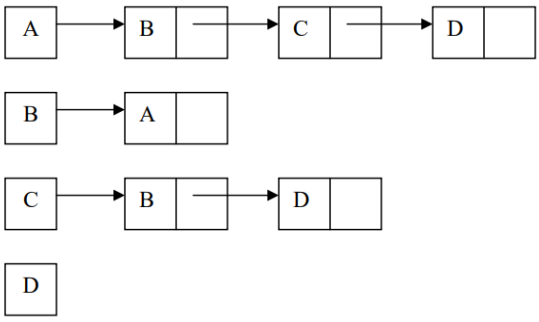
Your Name:_____Your Entry Number: _____.
Your group/sub-group number: :_____Your lab TA name:_____.

COL106, Quiz 4

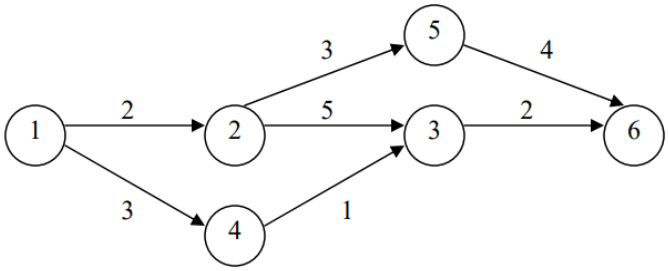
Q1. Here is an adjacency list representation of a directed graph (where there are no weights assigned to the edges).



(a) Draw a picture of the directed graph that has the above adjacency list representation.

(b) Another way to represent a graph is an adjacency matrix. Draw the adjacency matrix for this graph.

Q2. Consider the following directed graph.



We want to use Dijkstra's algorithm to determine the shortest path from vertex 1 to each of the other vertices. Update the entries in the following table to indicate the current shortest known distance and predecessor vertex on the path from vertex 1 to each vertex as the algorithm progresses. (Cross out old entries when you add new ones.) The initial values for the distances are given for you. Below the table, list the vertices in the order that they are added to the "cloud" of known vertices as the algorithm is executed.

Vertex	D (distance from vertex 1)	Predecessor vertex
1	0	NA
2	∞	
3	∞	
4	∞	
5	∞	
6	∞	