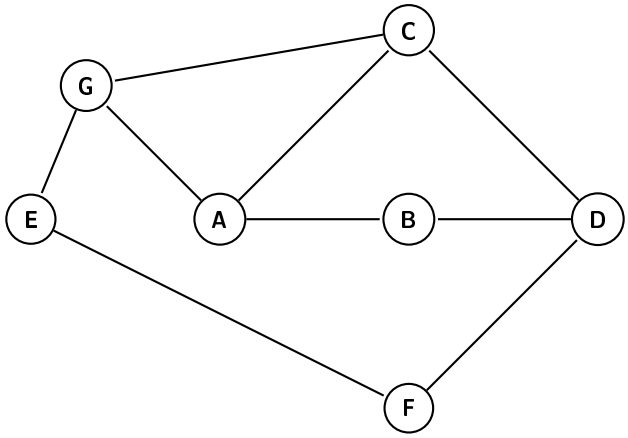
Data Structures and Algorithms with Python

BFS practice

Question 1. Use breadth-first search to explore the graph, starting from node B. In the initialization step of the algorithm, you add node B to a queue of nodes to process next, and mark it explored (all other nodes are unexplored). Then you go into the first iteration of the main loop. You repeatedly iterate the main loop until the whole graph is explored. Fill the grid below with the results **after the specified iterations of the main loop**.



Please list the explored nodes in alphabetical order and the queue in the appropriate order specified by the algorithm.

Iteration 1:

Explored nodes							
Queue							

Iteration 2:

Explored nodes							
Queue							

Iteration 3:

Explored nodes							
Queue							

Iteration 4:

Explored nodes							
Queue							

Finish the algorithm, and report the following:

Nodes in order of exploration								

Node	A	B	C	D	E	F	G
Shortest distance from B							

Now repeat the same analysis for the graph below, starting from node E.