In the parts below, enter the adjacency list corresponding to each node.

For every part, your answer should be sorted by least to greatest with a single space between each item. For example, a node A that has edges to nodes D, C, and B would be input as: B C D

a) What is the adjacency list for node 0?

b) What is the adjacency list for node 1?

c) What is the adjacency list for node 2?

d) What is the adjacency list for node 4?
2 Heaps

We have the following heap, representing a Min PQ: [-, 1, 4, 6, 7, 10, 12, 15, 16]. Here, - represents null.

a) What is the left child of element 4?
   ( ) 6 ( ) 7 ( ) 10 ( ) 12

b) What is the right child of element 6?
   ( ) 7 ( ) 10 ( ) 12 ( ) 15

c) Suppose we insert 0. What is the resulting state of the heap?
   ( ) [ - , 0, 1, 6, 4, 10, 12, 15, 16, 7]
   ( ) [ - , 1, 0, 6, 4, 10, 12, 15, 16, 7]
   ( ) [ - , 0, 1, 4, 6, 10, 12, 15, 16, 7]
   ( ) [ - , 0, 1, 4, 6, 7, 10, 12, 15, 16]
   ( ) None of the above

d) Consider the initial state of the heap again. [-, 1, 4, 6, 7, 10, 12, 15, 16]
   Suppose we call removeMin(). What is the resulting state of the heap?
   ( ) [ - , 4, 6, 7, 16, 10, 12, 15]
   ( ) [ - , 4, 7, 6, 15, 10, 12, 16]
   ( ) [ - , 6, 4, 12, 7, 10, 16, 15]
   ( ) [ - , 4, 7, 6, 16, 10, 12, 15]
   ( ) None of the above
3 Graphs

Suppose we have the graph below.

For all parts below, assume we break ties alphabetically.

a) What is the order that vertices are visited if we run DFS preorder starting on vertex A? Enter your answer as a space separated list, e.g. A B C D E F G.

b) What is the order that vertices are visited if we run DFS postorder starting on vertex A? Enter your answer as a space separated list, e.g. A B C D E F G.

c) What is the order that vertices are visited if we run BFS starting on vertex A? Enter your answer as a space separated list, e.g. A B C D E F G.