Assignment 2

Q.1) Write a function to find the middle node of a singly linked list.

i.e. Original list: 5-> 9-> 11-> 20-> 32

Middle Node: 11

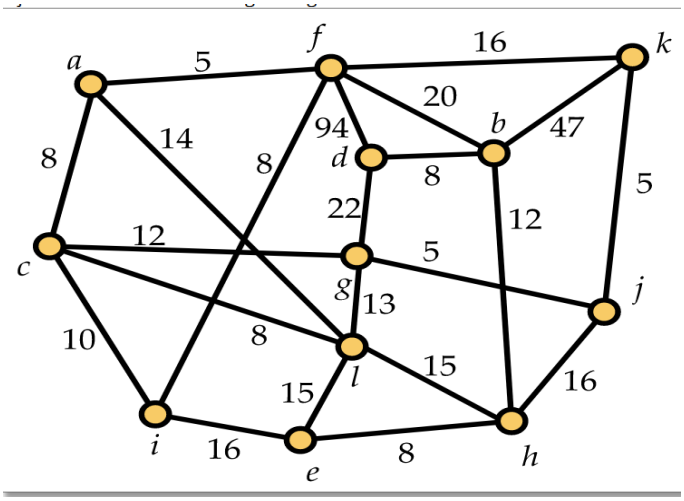
Q.2) Write a function to remove all occurrences of the matching node given by the user from the linked list.

i.e. Original List: 5-> 9-> 9-> 9-> 32

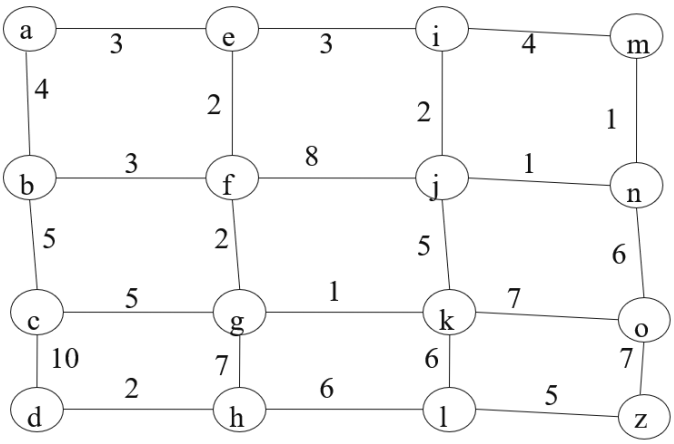
After removing all occurrences of 9: Middle Node: 5-> 32

Q.3) For the graph given below use Kruskal's algorithm (“avoid cycles”) to find a minimum weight spanning tree. Your answer should include a complete list of the edges, indicating which edges you take for your tree and which (if any) you reject in the course of running the algorithm.

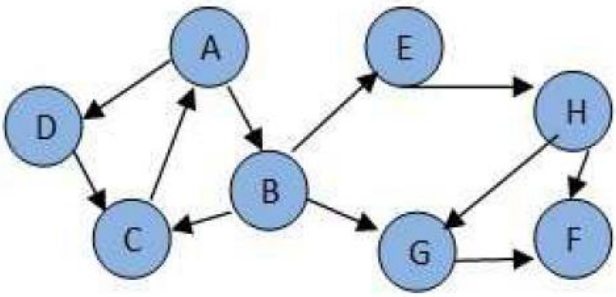
For the same graph use Prim's algorithm (“build tree”) to find a minimum weight spanning tree. Your answer should list the edges selected by the algorithm in the order they were selected.



Q.4) Find shortest part using Dijkstra’s algorithm from a to z



Q.5) Find Depth first search and breadth first search on following graph



Q.6) Find the preorder, inorder and postorder traversal for the following tree.