



Course Name: Data Structures and Algorithms
list

Topic: Single Linked

Assignment # 1

Total Marks:

Note :

Do as directed and attempt all the questions. Your answers must be to the point. Give examples must where necessary. Paste the screenshots of every program and its output must. Copy Paste will be marked zero.

Question # 01.

05 Marks

Let us consider the below graph. Write a code for traversal of given graph using depth-first search. Also update the table at each step when required. Starting node will be input by the user.

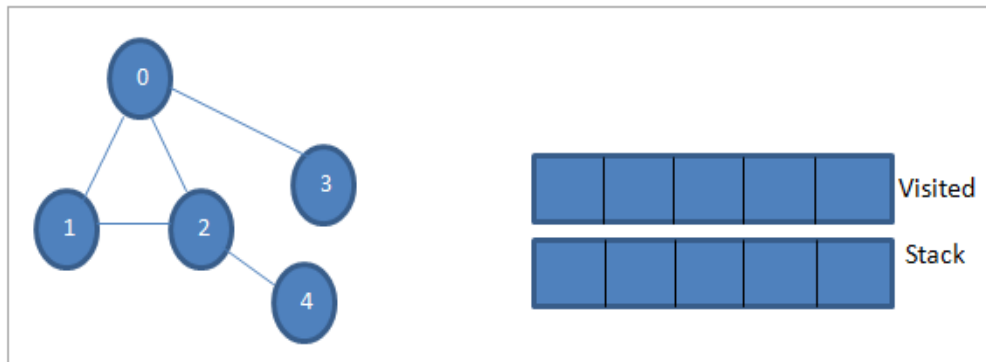


Figure 1

Question # 02.

05 Marks

Solve the graph below and write a code for Dijkstra's algorithm to solve the given problem.

Source and destination vertices will be input by the user.

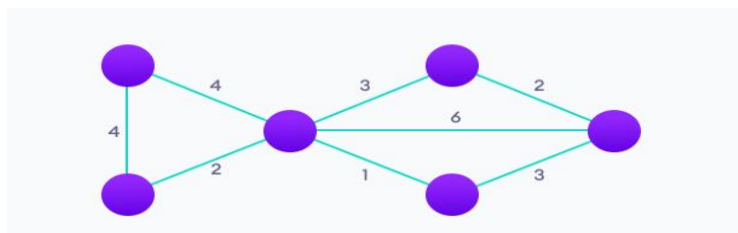


Figure 2

Question # 03.**05 Marks**

Given a graph and a source vertex in the graph, find the shortest paths using Dijkstra's algorithm from the source to all vertices in the given graph. Source vertex is 0.

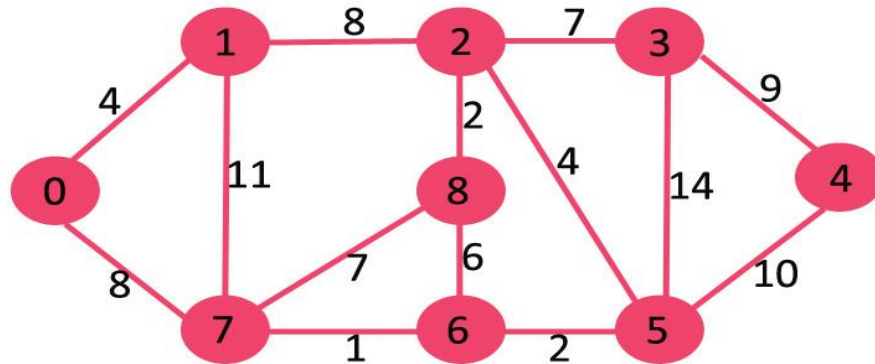


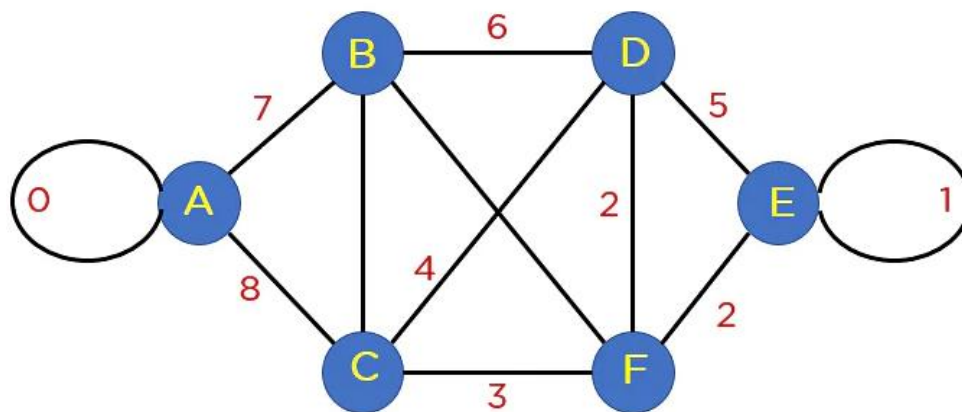
Figure 3

Question # 04.**05 Marks**

Consider the graph of figure “3” above, solve the given graph for Minimum spanning tree and then write a code for minimum spanning tree using prims algorithm.

Question # 05.**05 Marks**

Consider the graph below. Solve the graph using Kruskal algorithm and write code for finding Minimum Spanning Tree Using Kruskal Algorithm



Graph G(V, E)

Figure 4

