

## Sample Graph Questions

1. For the given directed, edge-weighted input graph:

D	C	10
A	B	12
D	B	23
A	D	87
E	D	43
B	E	11
C	A	19
C	B	11
B	F	10

- Draw the graph that corresponds to the given input. **[6 points]**
- Draw the adjacency matrix representation for this graph. **[4 points]**
- Draw the adjacency list representation for this graph. **[4 points]**

### Sample Graph Questions

- d. Assuming that the graph is undirected, compute the minimum spanning tree for this graph. Show the steps involved in computing the minimum spanning tree and compute the weight of the minimum spanning tree. **[10 points]**

### Sample Graph Questions

- e. If you were to compute the shortest path between node A and all other nodes in the graph which algorithm would you use. Use that algorithm to compute the shortest path from node A to all other nodes (show the steps involved in computing the shortest paths) and write down the sequence of nodes traversed by the shortest paths. **[10 points]**

### Sample Graph Questions

- f. If the weight of the edge (C, B) is changed to -11, which algorithm would you use to compute the shortest path between node A and all other nodes in the graph. Use that algorithm to compute the shortest path from node A to all other nodes (show the steps involved in computing the shortest paths) and write down the sequence of nodes traversed by the shortest paths. **[10 points]**