CSc 345 – Summer 2014
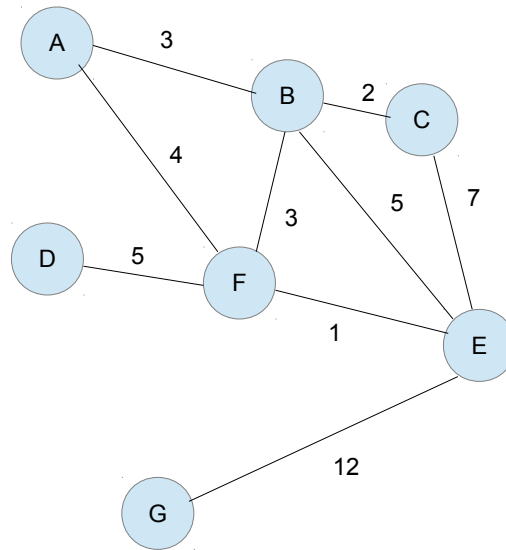
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Sample problems

Figure 1: A weighted undirected graph G

1. What is the degree of B?

2. What is the length of the path A-F-E-B?

3. What is the cost the path A-F-E-B?

4. Is this an acyclic graph? Why?

5. Draw the adjacency matrix for this graph.

6. Draw the adjacency list for this graph.

7. Create a subgraph by defining the sets V' and E'.

8. Give an example of a simple cycle in this graph.

9. Run breadth-first-search starting at A and show the resulting tree.

10. Run depth-first-search starting at A and show the reuslting tree.

11. Find the minimum spanning tree using Prim's algorithm.

12. Find the minimum spanning tree using Kruskal's algorithm.