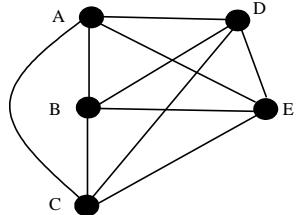


This week you learned information on Graphs and Search traversal approaches. For the following items below provide the answer for each and submit in Blackboard.

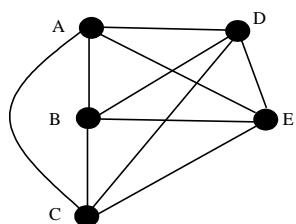
1. List the nodes in order of traversal, for a DFS tree from the following graph starting from vertex E.

Traversal order: E → A → B → C → D



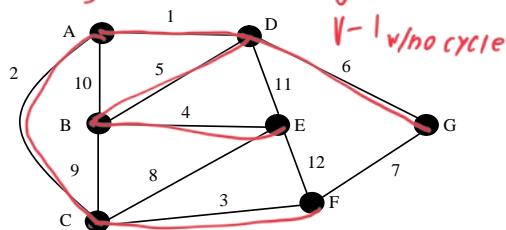
2. List the nodes in order of traversal, for a BFS tree from the following graph starting from vertex E.

Traversal order: E → A → B → C → D



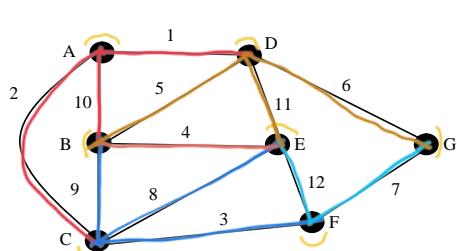
3. Find a MST in the following graph. To describe the MST, simply put the edges in a list, in the order for which they were added to the MST

Using Kruskal's Algorithm: [AD, AC, CF, BE, BD, DG]



4. Find & List all shortest paths starting from vertex A in the following graph. Hint: Use the steps in Dijkstra's algorithm to determine shortest paths from A.

-Visited



Shortest Paths from A

A	A
D	A → D
C	A → C
F	A → C → F
B	A → D → B
G	A → D → G
E	A → C → E or A → D → B → E

$$\begin{aligned}
 A \rightarrow D &= 1 \\
 A \rightarrow C &= 2 \\
 A \rightarrow B &= 10 \\
 A \rightarrow F &= 5
 \end{aligned}$$

$$\begin{aligned}
 D \rightarrow B &= 6 \\
 D \rightarrow G &= 7 \\
 D \rightarrow E &= 12
 \end{aligned}$$

Dist from A	table
A = 0	✓
B = 6	✓
C = 2	✓
D = 1	✓
E = 10	✓
F = 5	✓
G = 7	✓