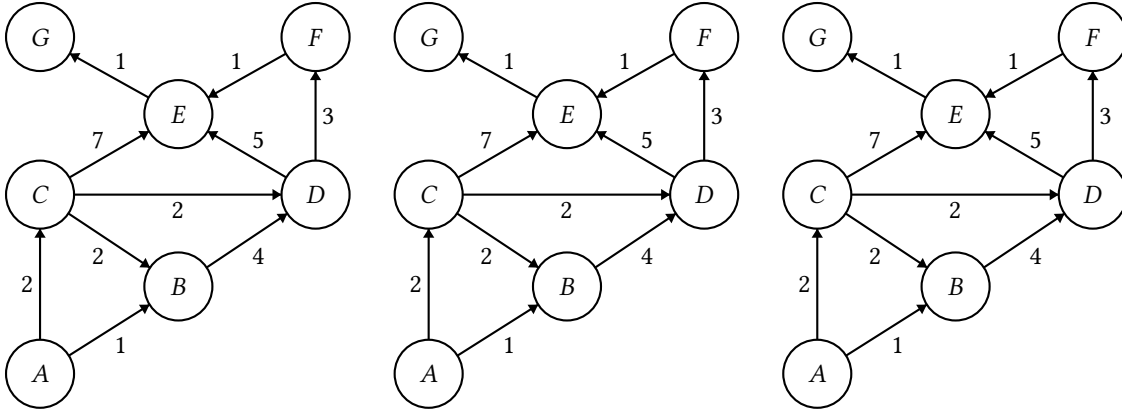


We have provided 3 copies of the following graph. For each algorithm, give the vertices in the order they are visited. If there are multiple valid choices, traverse vertices in alphabetical order (ABCDEF G).



1. Depth-First Search (pre-order) starting from A.

A B D E G F C

2. Breadth-First Search starting from A.

A B C D E F G

3. Give the **unweighted shortest path** (Breadth-First Search) from A to G. You may not need all blanks.

A C E G ___ ___ ___

4. Dijkstra’s Algorithm starting from A, where “visiting a vertex v ” means “relaxing all of the edges out of v .”

A B C D F E G

5. Give the **weighted shortest path** (Dijkstra’s Algorithm) from A to G. You may not need all blanks.

A C D F E G ___