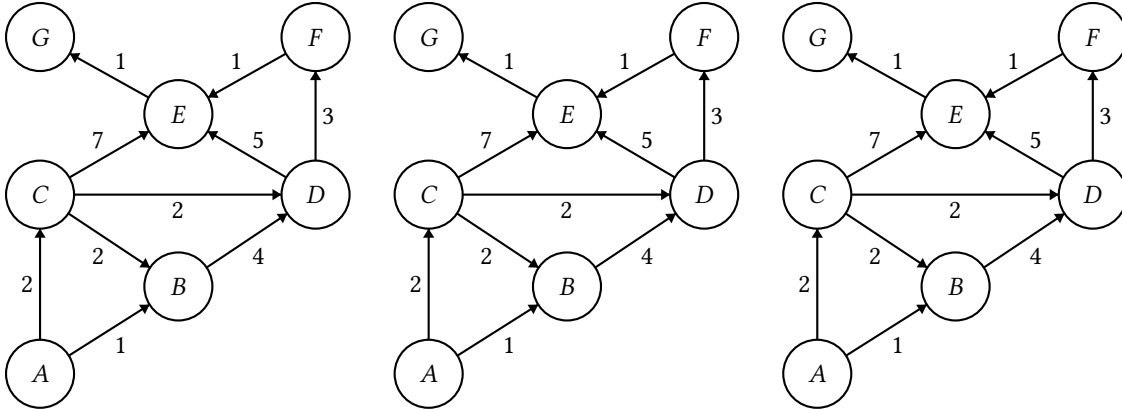


We have provided 3 copies of the following graph. For each algorithm, give the vertices in the order they are visited. If there are multiple valid choices, traverse vertices in alphabetical order (*ABCDEFGG*).



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

A    \_\_\_    \_\_\_    \_\_\_    \_\_\_    \_\_\_

2. Breadth-First Search starting from A.

A    \_\_\_    \_\_\_    \_\_\_    \_\_\_    \_\_\_

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

A    \_\_\_    \_\_\_    \_\_\_    \_\_\_    \_\_\_

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

A    \_\_\_    \_\_\_    \_\_\_    \_\_\_    \_\_\_

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

A    \_\_\_    \_\_\_    \_\_\_    \_\_\_    \_\_\_