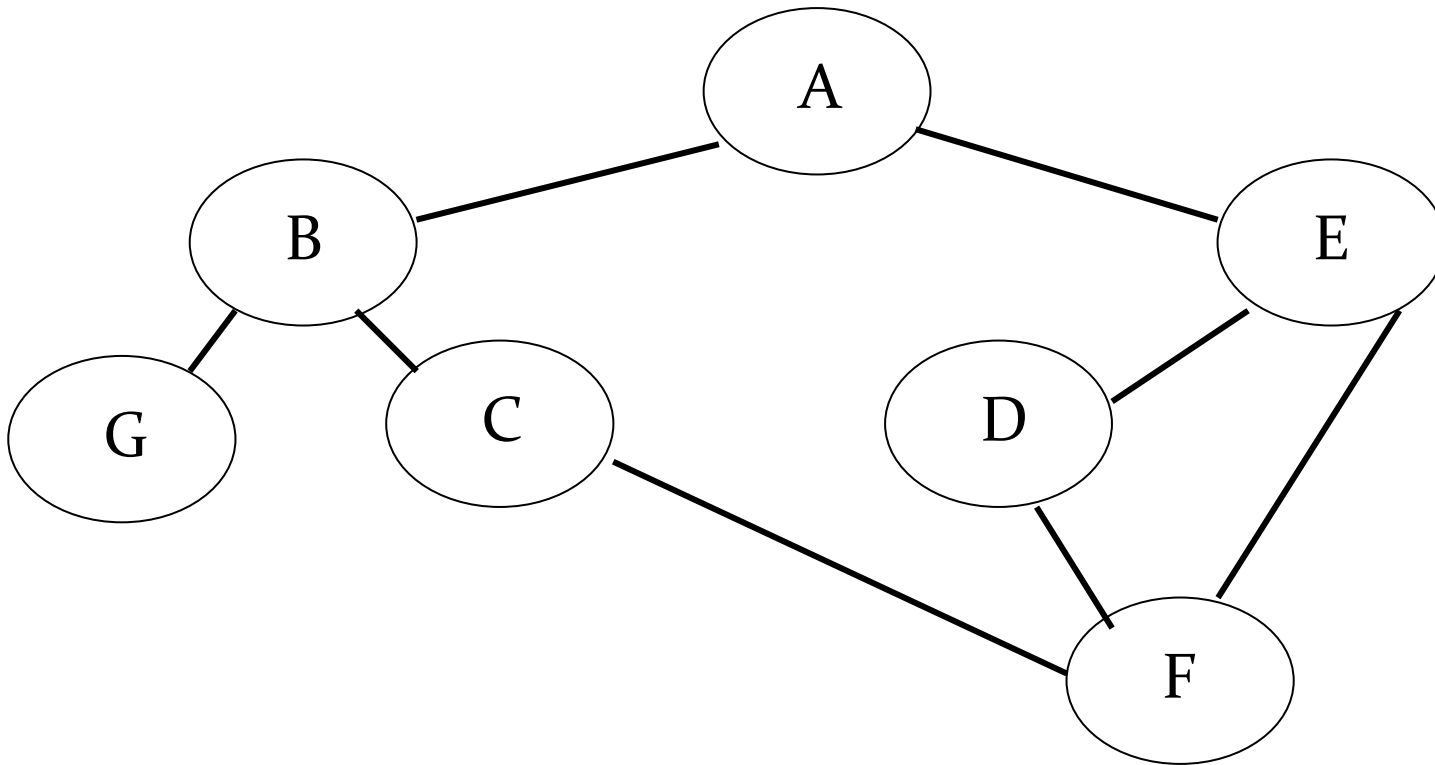# Graphs

➤ Graph Traversal:
  ➤ BFS
  ➤ DFS

Example: Depth-First Search

DFS(Algorithm)

1. Initialize all nodes to the ready state(STATUS=1).

2. Push the starting node A onto STACK and change its status to the waiting state(STATUS=2).

3. Repeat Steps 4 and 5 until STACK is empty:

4. Pop the top node N of STACK. Process N and change the status of N to the processed state (STATUS=3).

5. Push onto STACK all the neighbors of N that are still in the ready state (STATUS=1), and change their status to the waiting state (STATUS=2).

   [End of Step 3 loop]

6. Exit

Example: Breadth -First Search
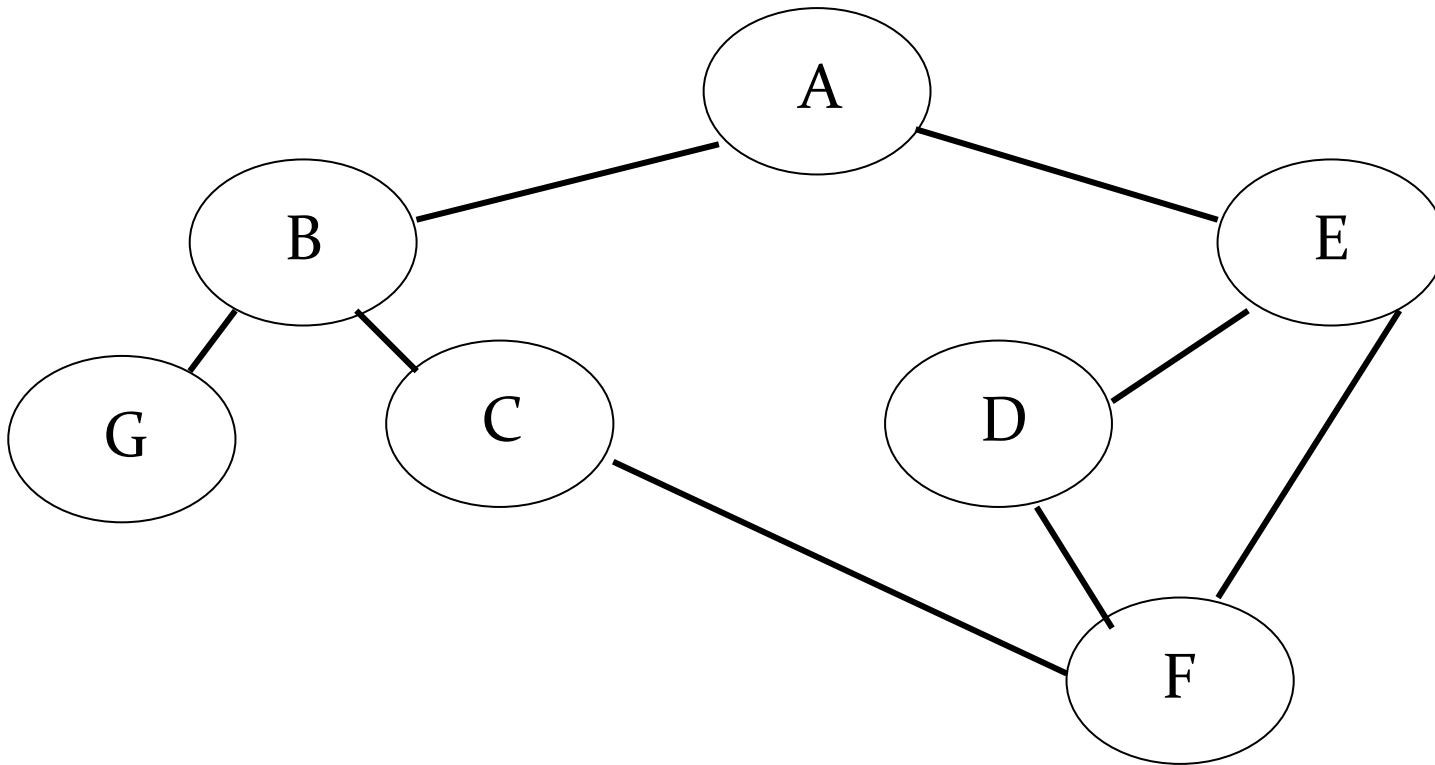
BFS(Algorithm)

1. Initialize all nodes to the ready state(STATUS=1).

2. Put the starting node A in QUEUE and change its status to the waiting state(STATUS=2).

3. Repeat Steps 4 and 5 until QUEUE is empty:

4. Remove the front node N of QUEUE. Process N and change the status of N to the processed state (STATUS=3).

5. Add to the rear of QUEUE all the neighbors of N that are in the steady state (STATUS=1), and change their status to the waiting state (STATUS=2).

   [End of Step 3 loop]

6. Exit

Thank You