Two nodes are neighbors if there is an edge connecting them.

E.g. \(A\) & \(D\) are not neighbors, while \(B\) & \(C\) are neighbors.
BFS: Breadth-first search

- Step 0. Give node $A$ the index 1.
- Step 1. Let $\{1, 2, \ldots, k\}$ be the set of indexed nodes, and let $x$ be a neighbor of the smallest indexed node.
- Step 2. Label node $x$ with $k + 1$. Return to Step 1.
DFS: Depth-first search

- Step 0.
- Step 1.
- Step 2.

For both BFS and DFS, in the case of a tie, break the tie alphabetically, choosing the node with the earliest letter in the alphabet.