

1) Edge List

2) Graph 1: Connected

Graph 2: Connected

Graph 3: Not Connected

Graph 4: Connected

Graph 5: Connected

We can tell because none of them have an unreachable point using BFS

3) The graph would not change, all points would still be connected. If the graph were directed, the output may change, depending on how the directions played out; ie if one vertex only had outgoing edges, it would be unreachable.

4) BFS will get to the final point eventually, DFS may get stuck. DFS can get lucky and find the destination really fast, but it may also have to backtrack.

5)  $O(N)$ , because you may have to go through every node.