

Grant Nakashima

Assignment 7

- 1) The code is stored by adjacency list. We are checking if the vertices are adjacent to each other.
- 2) Graph 1,4 and 5 are connected. All of the vertices are reachable so this makes the graph connected. Graph 2,3 were the only two graphs that ended up with unreachable vertices.
- 3) The output would not change. The result would end up being the same. If the graphs were directed then the output could change or there is a chance you might not be able to go back because the direction from one node to another is one direction.
- 4) Pros: (BFS) will not go down infinite path,(BFS) will find solution because it will check all paths,(DFS) can find the path quickly if it gets lucky.
Cons: (BFS) not as fast as the (DFS), (DFS) could go down an infinite path. (DFS) could have to back track many times.
- 5) The Big O execution time if a node is reachable from another node is $O(|V| + |E|)$.