**CPSC 319**

**Assignment #4: Graphs**

Winter 2022

Lab Report Due Date: April 1st , 2022

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**Questions:**

1. To combat loops in a graph, using the depth-first traversal would be beneficial as this traversal method is efficient in finding backdoor edges that break down the larger overall graph. In the worst case scenario, depth-first traversals would be at a O(V^2) level, where V is the number of vertices. This is the time-complexity for a adjacency matrix.
2. Breadth-First Traversal is much more efficient when the vertices are closer together, and the Depth-First Traversal is efficient when trying to find paths that are further away from the source. Depending on the positioning of the source, either or will be efficient.

**References:**

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* *How to Break a Loop in Java | Webucator*. (n.d.). Www.webucator.com. Retrieved April 1, 2022, from https://www.webucator.com/article/how-to-break-a-loop-in-java/#:~:text=How%20to%20Break%20a%20Loop%20in%20Java%201
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