

COP 5537 - Assignment 2 Pseudocode

File is read in (Data.txt), declare our adjacency matrix as A," a 2d int array, initialize all helper variables.

For each row in our matrix, fill with the corresponding row from the Data.txt file.
Get startIndex from user.

Run Fleury's algorithm with method "Fleury(A, startVertex)" which requires the previously built matrix and the starting vertex (startVertex).

Fleury(A, startVertex):

Determine the total number of vertices in the graph.
Initialize helper variables that will create a graph object and a eulerCircuit array list that will store all vertices in our circuit.

findEulerCircuit method is called that starts at our given vertex (startVertex) and finds all vertices that can be reached from this vertex.

For each vertex:

1. If we can create an edge (call newEdge method) between this vertex and another, do so and add vertex to eulerCircuit array list.
2. Use Prims to validate whether or not deleting the edge would disconnect our given graph. Additionally, count how many edges connect our vertex (degree of vertex).
3. If not, remove edge (call deleteEdge method) we have seen already because an edge can only be taken once in an Euler circuit.
4. Repeat for each possible vertex until we have made it back to initial vertex (startVertex).

Display results by writing contents of eulerCircuit array list to assignment2_output.txt.