COSC 2436 lab6: Topological Sorting

Create a C++ program to read in the connected edges of a graph and then determine the topological sorting for the graph. Because there are many valid sorts, we will prefer the one that maintains the order in which the vertices are given.

1. Input files
   - The input files begin with a single integer representing the number of vertices in the graph. This number will always exist and is always valid.
   - The following lines contain the ***(u, v)*** pairs of vertices that represent a directed edge from ***u*** to **v** in the graph. They are presented with one edge per line in the file and the from and to vertices are separated by a space.
   - The vertex values will always be valid integers, with no blank lines between them or extra characters.
   - Read in this information, preserving the order, and construct the topological sort based on the algorithm discussed in class.

2. Output files
   - Output the topological sorting on one line with a space after each vertex (including the last for simplicity).
3. Example

input1.txt	output1.txt
6 0 2 0 3 1 2 2 3 3 4 3 5 2 5 4 5	0 1 2 3 4 5
input2.txt	output2.txt
6 0 2 0 3 1 2 2 3 3 4 3 5 2 5 4 0 4 5 5 1	No Topological Sorting Exists!

Be sure to enqueue the edges in the order presented in the file and use the algorithm presented in class. There may be many valid topological sorts, but we are looking for this specific one.

4. Reminder
   - Turn in your lab assignment to our Linux server, follow the link here for more instructions.
   - Make sure to only have **one (1)** .cpp file with the main() function in your working directory, otherwise your program will fail the grading script.
     - Create a folder under your root directory, name the folder *lab6* (case sensitive), copy all your .cpp and .h files to the folder (ArgumentManager.h is also needed)
     - Only include the necessary files (.cpp and .h files) in your working directory in your final submission
     - To test your program, copy the input files into the server and run your program. After verifying that they pass, delete the .txt files.

   Please reach out to myself or the TAs for any clarifications or typos.