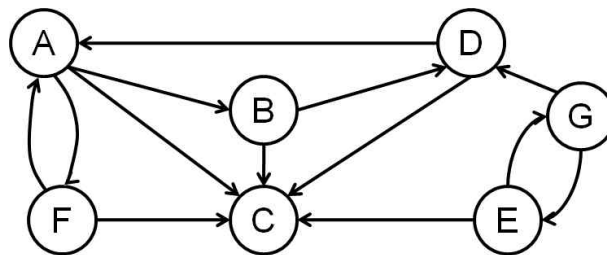


Algorithm Analysis Homework 5

Due by 5/24(Wed.) through LMS

Write a program that compute transpose of a graph.

Input graph will be represented as matrix. For example, the following sample graph will be represented as follows.



	A	B	C	D	E	F	G
A	0	1	1	0	0	1	0
B	0	0	1	1	0	0	0
C	0	0	0	0	0	0	0
D	1	0	1	0	0	0	0
E	0	0	1	0	0	0	1
F	1	0	1	0	0	0	0
G	0	0	0	1	1	0	0

Assume number of nodes in your graph is less than or equal to 20.

Step1) First, your program reads input file named 'hw5_data.txt' (It is directed graph this time) and construct adjacency array and adjacency list in alphabetical order for a given input.

Step2) Then compute transpose of the graph using adjacency array and adjacency list from step1. (not from matrix)

The program should print out followings.

- 1) Array of adjacency list of above graph
- 2) Array of adjacency list of transpose graph

Note

- 1) Try to make your output as neat as possible, so that other person can see what you have done clearly.
- 2) Write program in C++. You may use any feature in C++ including STL.
- 3) If the program does not compile, you will get no point. Make sure that your program runs in g++.
- 4) Test your program with above example and several other graphs.
- 5) Do not use hyper scale AI.
- 6) At header part of comment, list all the references you used when you do this homework.

For ex)

- (1) 강의 slide chapter 16.
- (2) Blog: ** URL here **
- (3) book: "Algorithm analysis in C++" by Someone