

Programming Project 2

Due **4/23/09** before class

Graphs (30 points)

Implement depth-first search (DFS) and breadth-first search (BFS) for (possibly directed) graphs. Use the adjacency lists representation to store your graphs. The output of the algorithms should be a printout of the vertices in the order that they are visited by the respective algorithms.

Test your algorithms on test graphs that you generate. You may assume for convenience that the vertices of your graph are labeled a, b, c, d, \dots . Write a short report (ideally a Word document) in which you document your test cases with pictures: Each test case should have a picture of a graph, and explain why the result of your program is the correct output of the algorithm. The tests, including the report, will be worth at least 10 points.

Turnin instructions

- You have to work on this programming project on your own. Group submissions are not allowed.
- You can use Java, C, or C++ for this project. If you want to use a different programming language, check with our TA first.
- Zip up a directory with your entire project (source code and report). **The name of the directory should include your last name.** Turn in the zip file by emailing it to me (carola@cs.utsa.edu) with the subject "CS3343 project 2 submission".
- All projects need to compile. If your program does not compile you will receive 0 points on this project.
- Do not use any fancy libraries. We should be able to compile it under standard installs of Java, C, or C++ under linux and/or windows. You may want to include some comments how you compiled the project.