

Computer Science 373 – Analysis of Algorithms
Prof. Steven Skiena
Fall 2017

Homework 3 – Graph algorithms
Due Thursday October 26, 2017

Each of the problems should be solved on a separate sheet of paper to facilitate grading. Limit the solution of each problem to one sheet of paper. Please don't wait until the last minute to look at the problems.

All numbered problems come from the second edition of *The Algorithm Design Manual*, by Skiena. Interested students may attempt the extra credit programming challenges problems described at the end of the relevant chapters for a small amount of additional points – small enough that you should be motivated primarily by interest and not greed.

1. Exercise 5-4.
2. Exercise 5-7.
3. Exercises 5-12 to 5-14.
4. Exercise 5-19.
5. Exercise 5-25.
6. Implement an algorithm to print out the connected components in an undirected graph (in whatever language you wish). Test files will be provided on my WWW page. Turn in a print out and the output on all my examples.
7. Exercises 6-4 and 6-5.
8. Exercise 6-9.
9. Exercise 6-15.
10. Exercise 6-17.