EE3980 Algorithms

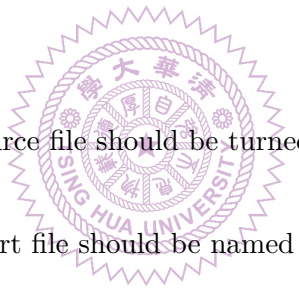
Homework 5. Ranking Martial Artists

Due: April 8, 2018

A group of Martial Artists are competing for the world ranking. The names of the Artists are given in the file `player.txt`. The first line of the file is the number of Artists, followed by all the names. And there were five Martial Art Tournaments held. The results are listed in five files: `tour1.txt`, `tour2.txt`, `tour3.txt`, `tour4.txt`, and `tour5.txt`. The first line of each file is the number of matches played in that tournament, followed by the results. The name on the left is the winner of a match, and the loser is on the right.

Your assignment is to write a `C` program to rank all the Martial Artists. Of course, if an Artist A has won a match against Artist B, the A should be ranked before B. Other than this, there are no other rules. And, your program is expected to be as efficient as possible in both CPU time and memory usage. Thus, a report should also be turned in. In this report, you are expected to explain the algorithm you use in the `C` program and analyze the time and space complexities, and argue that why your program and algorithm is the most competitive possible.

Notes.



1. One executable and error-free `C` source file should be turned in. This source file should be named as `hw05.c`.
2. A `pdf` file is also needed. This report file should be named as `hw05a.pdf`.
3. Submit your `hw05.c` and `hw05a.pdf` on EE workstations using the following command:

   ```
   $ ~ee3980/bin/submit hw05 hw05.c hw05a.pdf
   ```

   where `hw05` indicates homework 5.
4. Your report should be clearly written such that I can understand it. The writing, including English grammar, is part of the grading criteria.