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/*
* Report.pdf
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* Date: 11-18-16
*/
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- 1) The Implementation for Union Find is better because of the way merge and find and pathcompression for it works. In the worst case, a BFS search will require O(V^2) time complexity for a dense graph. In our case, the movie graph is relatively dense and takes a considerable amount of time compared to ufind. For example, with the provided test case, the BFS took around 2.5 seconds to run whereas UFIND took around 0.3 seconds to run.
- 2) The UFind data structure significantly outperforms BFS in all the cases I tested. Especially as the amount of tests became larger and larger ufind performed faster and faster comparatively. In files with around 100 tests, Ufind completed the outfile in only a fraction of the time as BFS.
- 3) My arguments include my tests. The BFS took around 2 minutes to complete whereas the UFind took less than 20 seconds to complete when timed. It performed significantly faster. For example, with the provided test case, the BFS took around 2.5 seconds to run whereas UFIND took around 0.3 seconds to run.