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group 1 Homework 5

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1 Logistics

See my git hub for the code, input, output and cheat sheet file.
https://github.com/Feronis/ParallelAlgorithms/tree/master/Assignment5

2 Assignment 5

Solution In this module we used Graphx to do several basic functions: triangle counting, page rank, and connected components.

Each of these were implemented on the basic algorithms page for spark's programming guide. I used this implementation with the basic data guide. Looking at the implemenation of *graph.connectedComponents* we see it has a maximum iteration counter, so the complexityfairly probabilistic but give that finding connected components is $O(n+m)$ via BFS which can be parallelized towards $O((n+m)/p+merge))$. Page rank iterates towards convergence but grows similarly. Triangle counting is $O(n^2)$ sequentially in a naive implementation and would work towards $O(n^2/p)$ in parallel.

Sorry for the sparseness of my answers as I had little time to do this with hackathon and tests.