CS633: Parallel Computing

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1 Assignment 4.2: Improvements

From profiling done in 4.1, I think that the following can be done to improve the performance

- For starting node(rank 0), **WritePVector** takes more time. It basically done MPISend and MPIRecv so we can replace the blocking send and recv with Non-Blocking MPIIrecv() and MPIIsend() to do the computation along with.
- For last node **ParallelReadGraph** is bottleneck as it takes more time. It basically reads the input graph and distribute the graph data like vertices weight, adjacency weight, etc. to all nodes with Bcast. We can do parallel I/O to read the data by each process in parallely instead of only last process reading the graph data and sending to all other nodes. Also, we can Replace the MPISend and MPIRecv with non-blocking ISend and Irecv.