

## Homework #2: Parallel Models

- 1: Use the EREW PRAM, LogP and BSP models to estimate the running time for adding  $N$  numbers on  $p$  processors. Show all of your work and describe how the algorithm will be implemented within each model.
- 2: Use the LogP model to describe the performance of the Master-Slave (bag of tasks) approach to parallelizing programs. Assume that we have  $N$  tasks each requiring a the same amount of time to execute? How does capacity and the number of tasks effect the performance of this problem. Is there an upper bound on performance? If it exists, what is this bound?