CS 6230 – High-Performance Computing and Parallelization
Assignment 1 : Due January 22nd, 2014

The purpose of this homework is a hopefully simple parallel familiarization exercise on the Telluride Cluster. The programs used are from the test programs of Pacheco.

Part 1 Run the program greetings.c on both the Turret Arch and Telluride Clusters up to say 16 cores. Use batch mode on Telluride

Part 2 Run the program trap.c on Telluride on 1, 2 4 8 and 16 cores. Note that you will have to read about the method in the slides and/or the Wilkinson and Allen book. Try and use the function below and pick mesh size so that you get at least some scalability.

$$U(x) = (2e^{2\pi(x+1)} - 1 - e^\pi)/(e^\pi - 1), 0 \le x \le 0.5$$
$$U(x) = -\sin((2\pi x)/3.0 + \pi/3.0), 1 \ge x \ge 0.5$$

Part 3 Write a short report explaining what you did and showing any results that you obtained. Submit a zipped file containing the programs and your write up and results in separate files. Please email the file to me at mb@sci.utah.edu