CS/CE/TE 6378: Advanced Operating Systems
Section 002
Project 1

Instructor: Neeraj Mittal

Assigned on: Monday, September 8, 2014
Due date: Monday, September 29, 2014

This is an individual project. *Code sharing among students is strictly prohibited and will result in disciplinary action being taken.*

You can do this project in C, C++ or Java. Each student is expected to demonstrate the operation of this project to the instructor or the TA. Since the project involves socket programming, you can only use machines netXX.utdallas.edu, where XX $\in$ {01, 02, .., 45}, for running the program. Although you may develop the project on any platform, the demonstration has to be on netXX machines; otherwise, you will be assessed a penalty of 20%.

1 Project Description

Implement a distributed system consisting of n processes. The value of n and the location of each of the n processes is specified in a configuration file. Every process selects a label value (basically an integer) uniformly at random in the beginning. Every process then circulates a token through the system that visits each process in the system once and computes the *sum* of all the label values along the way. The path taken by the token of each process is again specified in the configuration file. This path is *piggybacked* on the token by the process that generated the token. At the end, each process prints its label value and the sum of all the label values computed by its token.

2 Submission Information

All the submission will be through eLearning. Submit all the source files necessary to compile the program and run it. Also, submit a README file that contains instructions to compile and run your program.