CSCI/ECEN 5673: Distributed Systems
Spring 2017
Programming Assignment 2
Due Date: 03/24/2017

You may work on this assignment with one of your classmate (team of size 2). Download an implementation of Raft from the Internet. There are several open source implementations available in different languages (See https://raft.github.io/). Using Raft, implement a distributed, fault-tolerant queue data structure, *FTQueue* that exports the following operations to the clients:

int *qCreate* (int label); //Creates a new queue of integers; associates this
//queue with label and returns a queue id (int)
int *qId* (int label); //returns queue id of the queue associated with label
void *qPush* (int queue_id, int item); // enters item in the queue
int *qPop* (int queue_id); // removes an item from the queue and returns it
int *qTop* (int queue_id); // returns the value of the first element in the queue
int *qSize* (int queue_id); // returns the number of items in the queue

FTQueue must be able to tolerate up to two server crash failures

What to submit

Please submit a single zip file that contains the following:

- All source code files
- A README file that includes a description of how to compile and run your program. In addition, include the current status of your program – what works, what doesn't, sources of potential errors, etc.

Grading

You will need to demo your program to the TAs during grading interview and answer questions about your program as well as Raft.