EE 5379 Network Protocols
Programming Assignment #3: Multi-threaded Computation Server
Due Date: April 20, 2020 (before Midnight)

Objective:

1) Learn the pthreads multi-threading library.
2) Upgrade your Assignment 2 computation server to support multi-threading.

Instructions:

1) Update your server application to create a thread to handle each client. You will use the pthreads library to do this; pthreads will create a thread out of a function call.
2) To create a thread, see the code example below. When you compile you might need to add -lpthread to the gcc command line.

```
#include <pthread.h>

pthread_t tid; /* variable to hold thread id */
pthread_attr_t attr; /* variable to hold thread attribute structure */

pthread_attr_init(&attr); /* Initialize pthreads attribute structure, execute this only once */

/* For each client connection accepted, create a thread to handle the client */
pthread_create(&tid, &attr, handleClient, (void *) clientSocket);

/* This is the function that is the starting point for the thread */
void *handleClient(void *param)
{
   int socket;
   socket = (int) param;
   …
   pthread_exit(0);
}
```

3) Submit, via Blackboard, the deliverables described below. Use all lower case characters for your file names.

Deliverables:

1) Submit server_firstinitiallastname.c **with good comments**.

Scoring:

Operation/Successful Demonstration	50%
Adherence to Specifications	40%
Quality of Comments	10%
Lateness	-10% per day (including weekends and holidays)