COMP-4320

Introduction to Computer Networks

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LAB SECTION: 001

Programming Assignment #1

Synopsis

The program seems to work as intended in accordance to what the assignment requested. The program can be tested by:

1. Launching two separate Terminals (or Command Prompt if using Windows).
2. Navigate to the the directories in which the programs are stored.
3. We must first compile our programs...this can easibly be done with the following command: `javac myFirstTCPClient.java myFirstTCPServer.java`
4. Once the compilation finishes, designate one Terminal to act as the "server-side environment". We can start the server by entering: `java myFirstTCPServer <PORT>`

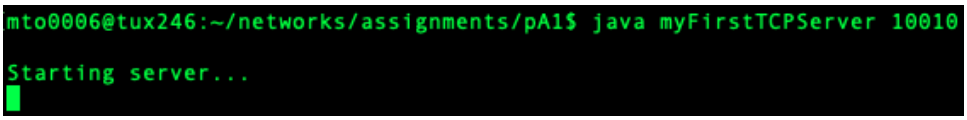

Figure 1: Successful execution of running the TCP Server

5. Over in our other Terminal, for which we will designate the "client-side environment" and run: `java myFirstTCPClient tux@@@.eng.auburn.edu <PORT>`. @ represents the host name (or number).

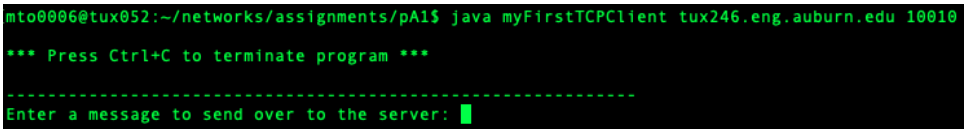

Figure 2: Successful execution of running the TCP Client

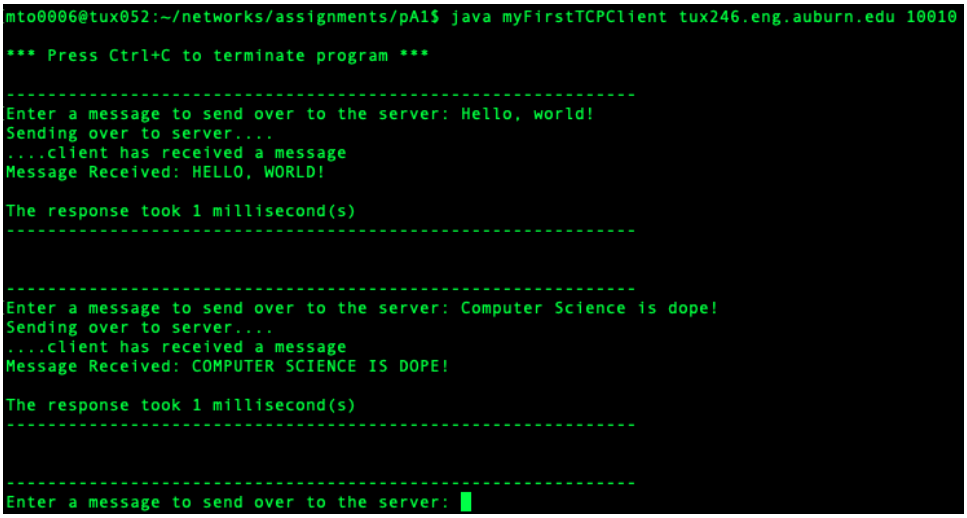

Figure 3: Demo of sending a message to the server

```
mto0006@tux246:~/networks/assignments/pA1$ java myFirstTCPServer 10010

Starting server...

Handling client at 131.204.14.52 on port 38152

Handling client at 131.204.14.52 on port 38154
Server Received: HELLO, WORLD!
>>> HELLO, WORLD!
------------------------------------------------------

Handling client at 131.204.14.52 on port 38156
Server Received: COMPUTER SCIENCE IS DOPE!
>>> COMPUTER SCIENCE IS DOPE!
------------------------------------------------------
```

Figure 4: Demo of receiving message from client

```
mto0006@tux052:~/networks/assignments/pA1$ javac myFirstUDPClient.java myFirstUDPServer.java
mto0006@tux052:~/networks/assignments/pA1$ java myFirstUDPClient tux246.eng.auburn.edu 10010

*** Press Ctrl+C to terminate program ***

------------------------------------------------------------
Enter a message to send over to the server: hi
Received: hi
The response took : 1 milliseconds
------------------------------------------------------------


------------------------------------------------------------
Enter a message to send over to the server: computer networks is amazing !!
Received: computer networks is amazing !!
The response took : 0 milliseconds
------------------------------------------------------------


------------------------------------------------------------
Enter a message to send over to the server:
```

Figure 5: Demo of the UDP client sending a message to server

```
mto0006@tux246:~/networks/assignments/pA1$ java myFirstUDPServer 10010

Starting server...

Handling client at 131.204.14.52 on port 50012
Server Received: HI
>>> HI
------------------------------------------------------

Handling client at 131.204.14.52 on port 50012
Server Received: COMPUTER NETWORKS IS AMAZING !!
>>> COMPUTER NETWORKS IS AMAZING !!
------------------------------------------------------
```

Figure 6: Demo of the UDP server receiving a message from the client