EECE 4830-5830 Network Design, Dr. Vinod Vokkarane

Programming Project Phase 1: UDP Client and Server

Project description: The TCP/IP stack has five layers, namely application, transport, network, link, and physical. In Phase 1 of the project, each student has to individually implement the standard user datagram protocol (UDP) sockets. The intention is to transfer a message (Say "HELLO") from the UDP client to the UDP server and then **ECHO** the message back from the UDP server to the UDP client. Note that the client and server process can reside on the same host, but have to use different port numbers. **Make sure that your program can send and receive messages in both directions.**

Implementation: **Individual effort**

Expectations: In this phase of the project, each student is expected to gain a thorough understanding of socket programming.

Programming language: Python, C, C++, Java or any language of your choice

Deliverables:

1. **ReadMe.txt**: Name of the team member, list the names of files submitted and their purpose, and explain steps required to set up and execute your program.
2. **Design Document** (design.doc): describe the purpose of each class and each data type. Also provide a step-by-step sample execution of your program (possibly with screen shots of a sample scenario).
3. **UDP client/server source files** (.py,.java,.c/.cpp/.h): well documented source code; mention ALL references for reuse of source code (if any).

Submit all your documents in a single compressed file with the name **StudentLastNamePhase1.zip**. All submission will be inspected using the **Plagiarism detection software.**

References:

1. Socket Programming
   - Python: Socket Programming (Textbook Sec 2.7)
   - JAVA: Socket Programming (PDF attached with Phase 1 assignment)
     - Socket Programming by InfoWorld
   - C/C++:
     - Linux Gazette's Socket Programming
     - Beej's Guide
2. UDP: RFC768