Project 1

In this project, you are going to write a client-server program using TCP. The client sends requests to the server and the server sends the reply back after processing the requests. The client can send the following requests to manage a simple student database that is stored on the server. To be simple, you can use a text file for the database. You can randomly use a 6-digit numerical number as a student's ID. We assume a student's first and last names are less than 10 characters’ long. A student's information includes his/her ID, first and last names, and his/her score (0-100) for the network course.

Run your client program on zeus and your server program on eros.

1. add(ID, Fname, Lname, score): this request adds a new student's information into the database.

2. display(ID): this request sends the ID of a student to the server and the server returns the information of the student.

3. display(score): this request sends a score to the server and the server returns the information of all the students whose scores are above the sent score.

4. display\_all: this request displays the information of all the students currently in the database.

5. delete(ID): this request deletes the student entry with that ID.

6. exit: terminates the program.

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See sample code for your reference to set up the TCP connection.

You do not have to stick to the sample to make connections. You can use any that makes a TCP connection. You start the program by making the connection first, and then see if you can let two machines communicate with each other using simple messages, and then try more complicated messages. You are flexible in designing user interfaces as long as you satisfy the above basic requirements. You can write the program in C, Java, or Python.

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Submission:

In order not to lose any files, you'd better zip all your files into a .zip file. Submit your project to CANVAS. You should write a readme textfile telling the grader how to run your programs. Without this file, it is very likely that your project will not be run properly.

Please submit your program to CANVAS before the deadline. Email submission WILL NOT be accepted.