

CS3210 - Computer Networks Lab

Lab 2: Math. and Simple File Servers

Instructor: Krishna M. Sivalingham
Assigned on: *Jan. 17, 2017*
Due on: *Jan. 22, 2017, 11PM on Moodle*

1 UDP based Math Server

In this part of the assignment, the goal is to write a UDP based client and server. The server implements a simple mathematical calculator. The client sends a message that contains a mathematical operation to be done. The server performs the necessary computation and replies with the result.

Assume that both operands (op1 and op2) are integers; and that all operators are binary and the operation is op1 operator op2.

Server	Client
% ./Mserver 5666	% ./Mclient localhost 5666
Received: add 34 56	Enter command: add 34 56
	Answer from server: 90
Received: sub 34 56	Enter command: sub 34 56
	Answer from server: -22
Received: exp 2 6	Enter command: exp 2 6
	Answer from server: 64

The operators to be implemented are: add, sub, mul, div, exp

2 TCP based Simple File Server

In this part of the assignment, the goal is to write a TCP based client and server. The client sends a message that contains a `filename` and a number N that denotes the number of bytes requested. Assume that file size is greater than or equal to N . The server will send the first N bytes of the specified file (assume that it is in its current directory). If the file does not exist, the server sends a special message "SORRY!".

The client will save the received bytes in a file with name `filename1` in the current directory. If the file does not exist in the server, the client will print the message: "Server says that the file does not exist."

Assume that the files only contain regular printable text characters.

3 What to Submit on IITM Moodle

A single tar.gz file with name `ROLLNO-Lab2.tar.gz` containing:

- Source files and Makefile

- A README File that explains how to compile and run the program; whether your programs works correctly or whether there are any known bugs/errors in your program.

4 Grading

- Math Server: 35 points
- Simple File Server: 50 points
- Viva Voce Exam: 15 points

5 Policies

- This is an INDIVIDUAL assignment. Please refer to first day handout (on Moodle) regarding penalties for any form of academic dishonesty, plagiarism, etc. There should be no downloaded code.
- Software for checking plagiarism the code will be used.
- The program can be written in C/C++/Java.
- Sample code for writing UDP clients and servers can be found from various sources including Comer's text used in the book. In the source code, please acknowledge the sources used.