May 7, 2017

INTERACTIVE CLIENT-SERVER APPLICATION

SIR SHABBIR MUKHI | SYSTEMs PROGRAMMING

Report in printed form, must contain all limitations  
You can use multi-threads/ processes – should be able to justify whatever you choose

| Task | Done |
| --- | --- |
| Mathematical Operations ( add , multiply, divide , subtract) |  |
| Run ( fork and exec – creation of a new process, return success or failure) |  |
| Kill ( by PID , by name , all -pertaining to client’s request) |  |
| List ( all processes, active processes – PID , name, status, start time, end time, elapsed time, should not contain processes which are terminated after failure in exec-pertaining to client’s request, updating lists based on signals sent from within or outside the process) |  |
| Implementation of communication mediums between client and server processes, and between main/central server and sub/child servers ( sockets / pipes-take care of record boundaries) |  |
| Server must be able to handle multiple clients(pre-fork or fork upon accept) |  |
| Interactivity in server using threads for separate functions such as addition, taking input from clients, etc (re-use threads by blocking threads assisted with multiplexed I/O if necessary) |  |
| Interactive client by using multi-threading ( thread for taking input from user, another for taking response from the server) |  |
| Connect and Disconnect on client |  |
| Close sent by client should close all processes associated with that client on the associated server process, and should return to client and close message sock |  |
| Exit and help on client |  |
| List (all processes, display on central server, collect individual clients’ lists-use pipes or sockets with identification of client whose list is being printed, use of dynamic arrays/linked list/vector) |  |
| Kill (from central server to it’s children to kill a process based on PID, name or kill all processes) |  |
| Message from central server to child processes (sub servers) to print desired message |  |