

Title: Multithreaded Client Server Architecture

Description:

Consider a Client-server architecture where both the client and the server run multithreaded programming (Consider at least 5 threads per side).

Scenarios:

In Server Side: A server request is generated by a server thread. A server can generate multiple server threads. One thread is assigned for handling the acknowledgement.

Server sends a blank file along with an integer n (user defined) to the client expecting a fibonacci sequence of length n written on that blank file and return to it.

In Client Side: One thread can always catch the server requests which creates other threads that process these requests. One thread generates the fibonacci sequence of length n. One thread writes the result to the blank file received. One thread sends the file to the server with a success message. One thread is assigned for handling the acknowledgement.

TASKS:

1. Implement the client-server architecture.
2. Write the algorithms (in texts).
3. Calculate Time Complexity of your algorithms.
4. Display the required output for each side (client/server).
5. Discuss in details about your approach.
6. State possible drawbacks of your algorithm and make a conclusion.