1. Discuss how RPC simplifies communication compared with the socket programming.
   RPC simplifies communication in DS by hiding most ot the complexity that comes with low-level socket programming. With sockets, a developer must manually handle connection, define message formats, serialize and reserialize data and ensure both sides follow the same protocol. In contrast, RPC allows the client to call a remote function as if it were a local one. Most of it is abstracted away by RPC library. The makes RPC code cleaner, shorter and easier to understand. The developer simply invokes a method and gets a return value.

2. Describe challenges encountered (e.g., handling timeouts, concurrent clients).
   One of the major challenges was handling RPC timeouts, especially when simulating slow or invalid operation like division by zero. Without timeout handling, the client can remain blocked indefinitely, waiting for a response that will never come. Another challenge was making sure of the server could handle multiple clients. Forgetting to lock and unlock the mutex was one issue. Testing multiple clients at the same time showed how important proper synchronization is.