Introduction to Socket Programming and implementation of checksum

In this experiment you and your lab mate will have to write two programs. EchoClient and EchoServer. The programs should deliver the following:

EchoClient:

Step 1: Client will create a socket and connect to the server. (Server needs to be already running)
Step 2: Client should read a line of text from a text file (input.txt).
Step 3: Client should calculate the checksum of that read line. (Assume the client and server agreed on divisor **16**)
Step 4: Let's assume the checksum is **m.** The client will now concatenate the checksum after the read input line as: **inputLine##m**

- *Add random error in the checksum, randomly pick a number from range [1-100], if it's less than 30, then add an incorrect value of m. Otherwise, add a correct value of m.*

Step 5: Client will send the concatenated input line to the server.
Step 6: Wait for response from server.

- If the transmission was correct, goto step 02.
- Else, goto step 05.

EchoServer:

Step 1: Server will create a socket on port no 2200
Step 2: If there is data on the socket server will read it
Step 3: Server will split the data and extract the checksum and input line (separate them)
Step 4: Server will also calculate the checksum of the extracted input line.
Step 5: If the checksums match server will display the message on stdout "Received message correctly" and also send "Received" to client.
Step 6: And if they don't match the server will display an error message ("error occurred during transmission"). And also send to client that "Error".
Step 7: Go to step 02.