Network Distributed Systems Assessment 1

Using the unreliable UDP/IP protocol, you should write a tool that reliably copies a file to another machine.

The tool consists of two programs:
send - the sender process.
recv - the receiver process.

In order to perform a file transfer operation, a receiver process (recv) should be run on the target machine.

A sender process (send) should be run on the source machine using the following interface:

send <loss_rate_percent> <source_file_name> <dest_file_name>@<comp_name> where <comp_name> is the name of the computer where the server runs.

A receiver process (recv) should handle an UNLIMITED number of file-transfer operations, but it is allowed to handle one operation at a time (sequence them). If a sender comes along while the receiver is busy, the sender should be blocked until the receiver completes the current transfer. The sender should know about this and report this.

A sender process (send) handles one operation and then terminates. You can assume that the source file name represents a specific single file.

Both the sender (send) and the receiver (recv) programs should report two statistics every 50Mbytes of data sent/received IN ORDER (all the data from the beginning of the file to that point was received with no gaps):
1) The total amount of data (in Mbytes) successfully transferred by that time.
2) The average transfer rate of the last 50Mbytes sent/received (in Mbits/sec).

At the end of the transfer, both sender and receiver programs should report the size of the file transferred, the amount of time required for the transfer, and the average rate at which the communication occurred (in Mbits/sec).

Deliverables:
1. Design documentation for application
2. Demonstration of working code