Exercise M4

For this exercise, you will revise your network file server program from module 3 to work on top of the UDP protocol. That is, you will need to use the DatagramSocket class. You may have to revise the threading model as well as the reader/writer constructs that you used in your prior implementation. You program also needs to overcome the following two challenges (1) UDP datagram has a size limit; your program needs to break the large files into smaller chunks that can be transported using UDP.  (2) UDP is unreliable; your program needs to implement the additional logic on top of the UDP protocol to ensure files are transmitted reliably, and with the chunks in the right order, on top of this protocol.

Submission Instructions

Create a zip file containing all of your source code files and submit via Canvas. Besides turning in the code, you must show your program running to the TA. The TA will ask you questions about it, and may want to see it executing in different configurations.

It is not enough to mindlessly type lines of code. You need to make sure you understand what each line of code is doing. You will be quizzed about it.

Rubric

**Exercise M4 Rubric**

| Exercise M4 Rubric | | |
| --- | --- | --- |
| **Criteria** | **Ratings** | **Pts** |
| This criterion is linked to a Learning OutcomeAdhere to constraints of Exercise M3 | |  |  | | --- | --- | | **5 pts**  **Full Marks** | **0 pts**  **No Marks** | | 5 pts |
| This criterion is linked to a Learning OutcomeUse UDP | |  |  | | --- | --- | | **5 pts**  **Full Marks** | **0 pts**  **No Marks** | | 5 pts |
| This criterion is linked to a Learning OutcomeEnsure reliability | |  |  | | --- | --- | | **5 pts**  **Full Marks** | **0 pts**  **No Marks** | | 5 pts |
| This criterion is linked to a Learning OutcomeBreak large files into smaller parts | |  |  | | --- | --- | | **5 pts**  **Full Marks** | **0 pts**  **No Marks** | | 5 pts |
| This criterion is linked to a Learning OutcomeAnswers about code/concepts sufficiently | |  |  | | --- | --- | | **5 pts**  **Full Marks** | **0 pts**  **No Marks** | | 5 pts |
| This criterion is linked to a Learning OutcomeImplement a multithreaded server | |  |  | | --- | --- | | **0 pts**  **Full Marks** | **0 pts**  **No Marks** | | 0 pts |
| Total Points: 25 | | |