Marking Guide
CPSC 441 – Assignment 3
Total Points = 100

*Code that does not **compile** and **run** on CPSC Linux machines (e.g., linux.cs.ucalgary.ca) will automatically receive a mark of 0 regardless of the actual implementation and the amount of code submitted. The TAs are not able to evaluate program submissions that do not compile and run.*

General features:

1. Sending segments, receiving ACKs and retransmissions are implemented in *parallel*.
2. TCP handshake is implemented correctly.
3. Window size is implemented correctly.
4. Sequence numbers are handled correctly.
5. Timer start and stop are implemented correctly.
6. Timer is started for the first segment in the window only.
7. Upon timeout, all pending segments are retransmitted.
8. Cumulative ACKs are processed correctly.
9. Segment creation and transmission is implemented correctly (e.g., all segments have the max payload except the last segment).
10. The last segment of the file is handled correctly.

Comments:

Requirements

Penalty	Description	Grade
-20	Program includes concepts or libraries that are not allowed	
-10	Submission instructions have not been followed	
-10	Program does not have proper code structure and comments	

Functionality: FastFtp Class (Total of 100)

Marks	Description	Grade
	File Transfer	
	Typical case	
	Use the following typical values for various parameters: • Loss = 0.10 • Delay = 10 • RTO = 50 • Window = 10 Run the client and server. Transfer a binary file of medium size about several 100 Kbytes. Expected outcome: • The client runs and transfer is completed quickly. • The file is transferred correctly. • There is no stalling or exceptions.	
	Special Cases: *Change the value of the parameters mentioned below. For others, use the default values.*	
	1. Effect of file type a. Send a medium size text file b. Send a medium size binary file	
	2. Effect of file length a. A small file of 1 byte b. A large file of several Mega bytes	
	3. Effect of loss probability a. Loss = 0.95, RTO = 10 ✓There should be a lot of retransmissions in this case. b. Loss = 0, RTO = 1000 ✓There should be almost no retransmissions in this case.	

	4. Effect of retransmission timeout (RTO) a. RTO = 100, delay = 1, loss = 0 ✓There should be almost no retransmissions in this case. b. RTO = 100, delay = 100, loss = 0 ✓There should be some retransmissions in this case.	
	5. Effect of window size a. Window = 1 ✓Slow file transfer b. Window = 100 ✓Fast file transfer	