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CSE 160 - Fall 2020
Project 3
Due: 11/27/2020 @3pm

Project 3 Design

Our goal for project 3 was to implement TCP using a sliding window that would work starting with a 3-way handshake, data transfer, and finally closing the connection. Our implementation runs within Node.nc, and only uses a fixed window instead of a sliding window as requested in the project prompt. We were unable to determine how to implement a sliding window properly, and due to blunders made in the code of the previous project, we were slightly pressed for time. In the end, we have developed a fixed window TCP protocol.

We started this project by creating any necessary header files, mainly the tcp_packet header to allow us to send TCP data between nodes, and slight modifications to socket.h for data handling and data checking. We then wrote out the testing commands for TestSim.py and the Command Handler system, since we knew that without these implemented, we would not be able to test our code in the end. All functions used are contained within our tcphandler and tcpdata functions when running. We have split tcpdata, which tells the node what to do when a DATA flag is received, from the tcphandler because of how we send tcp and data packets.

However our code feels mildly unreliable, there will be times where it runs and other times that it will stall when using the same compiled instance. Unfortunately, there is no time to make the protocol more reliable, and it will have to be adjusted after the due date. Although getting a form of TCP to work with a fixed window was better than we thought we would do considering the difficulty of this project.