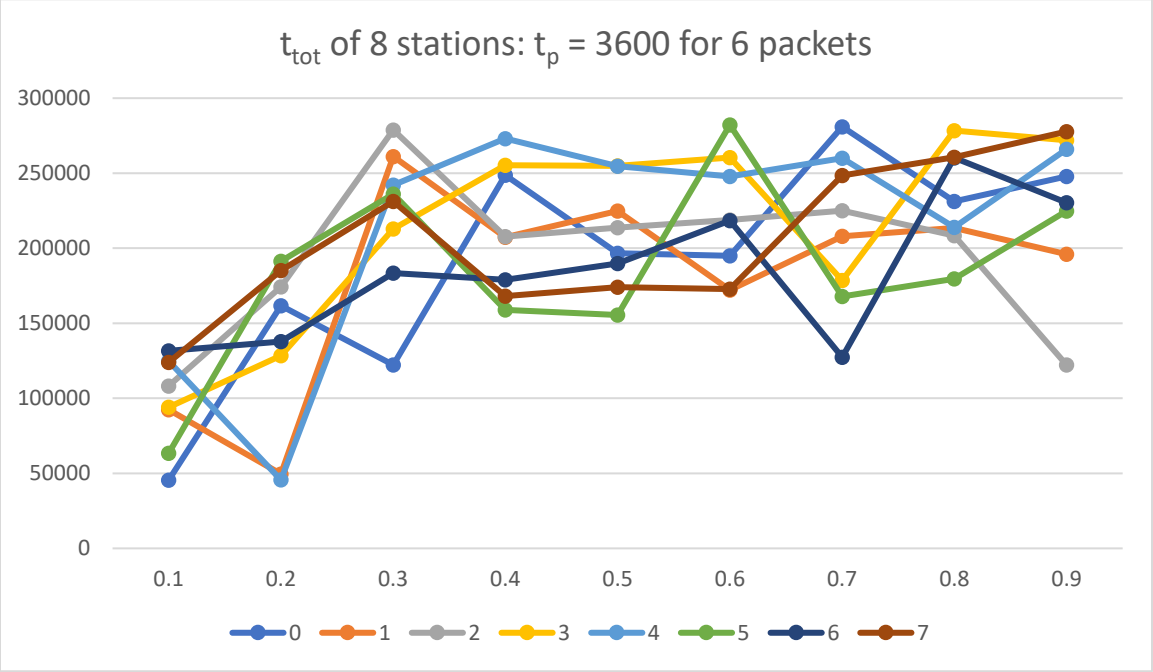
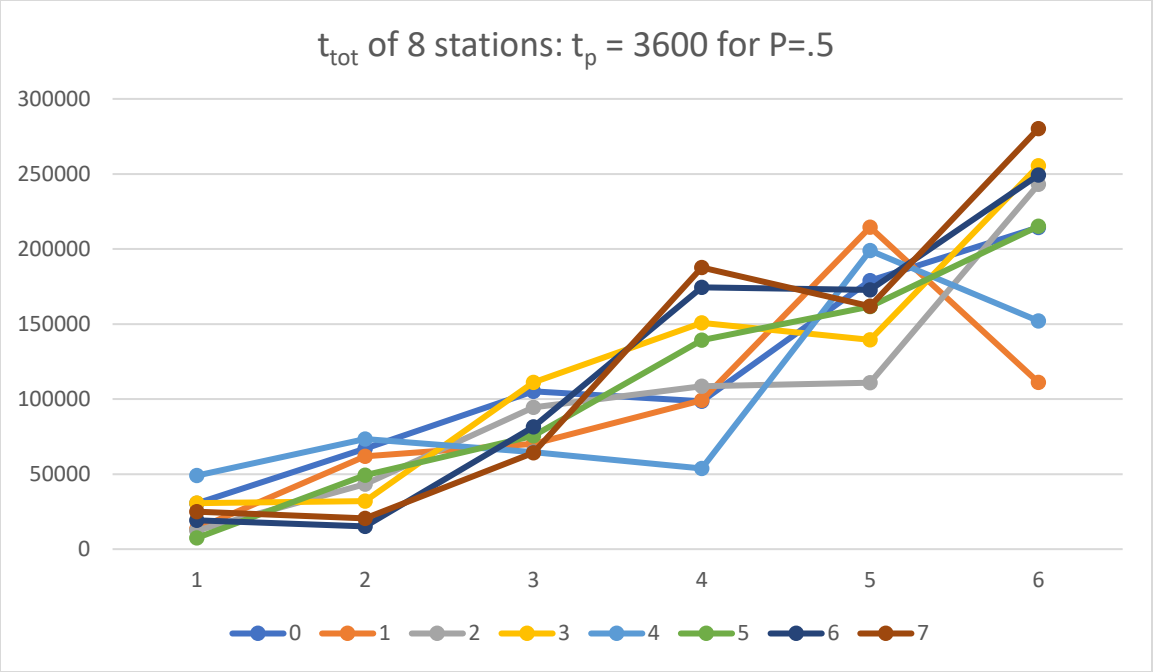
The compiled class files are in the zip file however if they do not run for some reason `javac sim.java` will work to compile. To run normally there should be a `sim.class` and `sim$station.class` file and in that directory `java sim` will run the program with just the t_{tot} output at the end. Running `java sim` with any other arguments will enable "debug mode" in which the simulator will output messages per station on having or not having data, acquiring or failing to acquire the medium, transmitting, and releasing the medium. The simulator creates 8 threads (stations) that set a few initial variables and then follow the diagram in the description where each block in the diagram save the "Check medium status" blocks match up numerically.



The above graph is of total time at different P values for 6 packets with a tick (t_s) of 50ms. Overall it appears to trend logarithmically. In the simulator the probability of the station having data ready to send essentially determines how many stations have data ready to send at once and thus how many stations are simultaneously trying to access the medium. Although it levels off at low values of P few stations are attempting to access the medium simultaneously so the total time to transmit per station is lower. Basically, because a station must wait if another station is currently transmitting the more running at once, the longer t_{tot}.



Again, a tick value of 50ms is used for this graph. Although the total time for each station starts to deviate after 3 packets the general trend is clearly linear. Times start to decrease near the end after stations complete transmission and they no longer need to lock the medium which is likely the cause of the deviation. Because of the nondeterministic nature of the station's acquiring of the semaphore for the medium and the random value of W for each thread comparing runtimes of previous tests isn't directly possible however from the above plot t_{tot} generally scales with number of packets. A P value of .5 was chosen due to the results of the previous graph that shows a nearly horizontal t_{tot} line for P<.3. While the results of the P graph point to a high correlation between the number of stations currently trying to transmit and the total time per station, the same correlation does not really apply where different values of M are concerned.