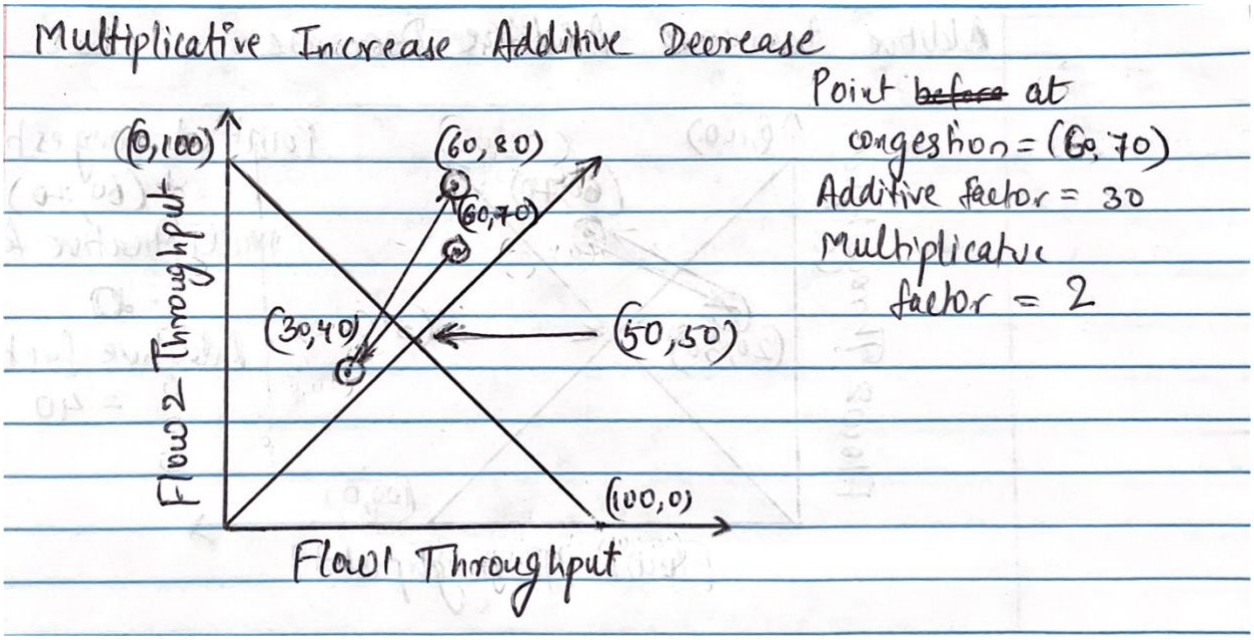
MULTIPLICATIVE INCREASE ADDITIVE DECREASE

The line passing through the point (50, 50) is called the fairness line and the point (50, 50) is the point of maximum utilization and maximum fairness. The congestion window (cwnd) must be as close as possible to (50, 50) for maximum utilization and maximum fairness.

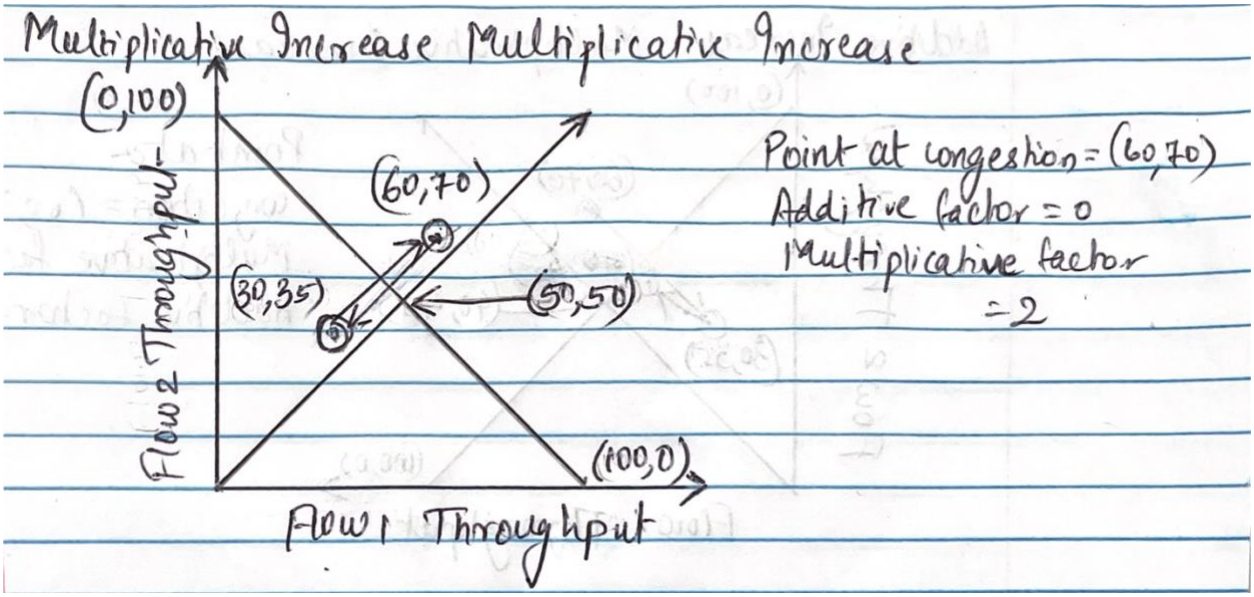
Here we consider the initial cwnd to be (60, 70) at which congestion occurs. So now we additive decrease the value that is decrease it by an additive factor (in this case the factor is 30), resulting in the window to be (30, 40). After this the cwnd is multiplied with a multiplicative factor (in this case the factor is 2), increasing the cwnd to (60, 80). As we can see from the figure that the cwnd always moves away from the fairness line and never converges to the point (50, 50), we can say that this approach is not fair.



MULTIPLICATIVE INCREASE MULTIPLICATIVE DECREASE

The line passing through the point (50, 50) is called the fairness line and the point (50, 50) is the point of maximum utilization and maximum fairness. The congestion window (cwnd) must be as close as possible to (50, 50) for maximum utilization and maximum fairness.

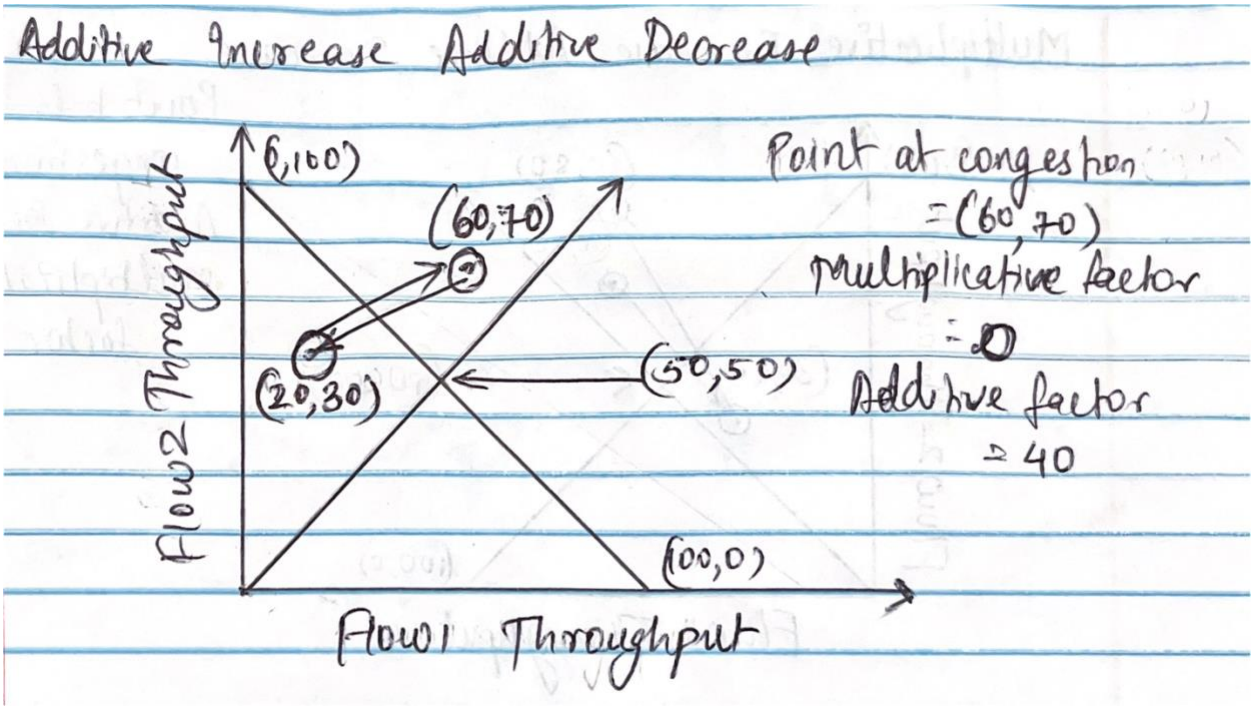
Here we consider the initial cwnd to be (60, 70) at which congestion occurs. So now we multiplicative decrease the value that is decrease it by a multiplicative factor (in this case the factor is 2), resulting in the window to be (30, 35). After this the cwnd is multiplied with the same multiplicative factor, increasing the cwnd back to (60, 70). As we can see from the figure that the cwnd always oscillates between the same two points and never converges to the point (50, 50), we can say that this approach is not fair.



ADDITIVE INCREASE ADDITIVE DECREASE

The line passing through the point (50, 50) is called the fairness line and the point (50, 50) is the point of maximum utilization and maximum fairness. The congestion window (cwnd) must be as close as possible to (50, 50) for maximum utilization and maximum fairness.

Here we consider the initial cwnd to be (60, 70) at which congestion occurs. So now we additive decrease the value that is decrease it by an additive factor (in this case the factor is 40), resulting in the window to be (20, 30). After this the cwnd is added with the same additive factor, increasing the cwnd back to (60, 70). As we can see from the figure that the cwnd always oscillates between the same two points and never converges to the point (50, 50), we can say that this approach is not fair.



ADDITIVE INCREASE MULTIPLICATIVE DECREASE

The line passing through the point (50, 50) is called the fairness line and the point (50, 50) is the point of maximum utilization and maximum fairness. The congestion window (cwnd) must be as close as possible to (50, 50) for maximum utilization and maximum fairness.

Here we consider the initial cwnd to be (60, 70) at which congestion occurs. So now we multiplicative decrease the value that is decrease it by a multiplicative factor (in this case the factor is 2), resulting in the window to be (30, 35). After this the cwnd is added with an additive factor (in this case the factor is 10), increasing the cwnd to (40, 45). As we can see from the figure that the cwnd always moves towards from the fairness line and is converging to the point (50, 50), hence we can say that this approach is fair.