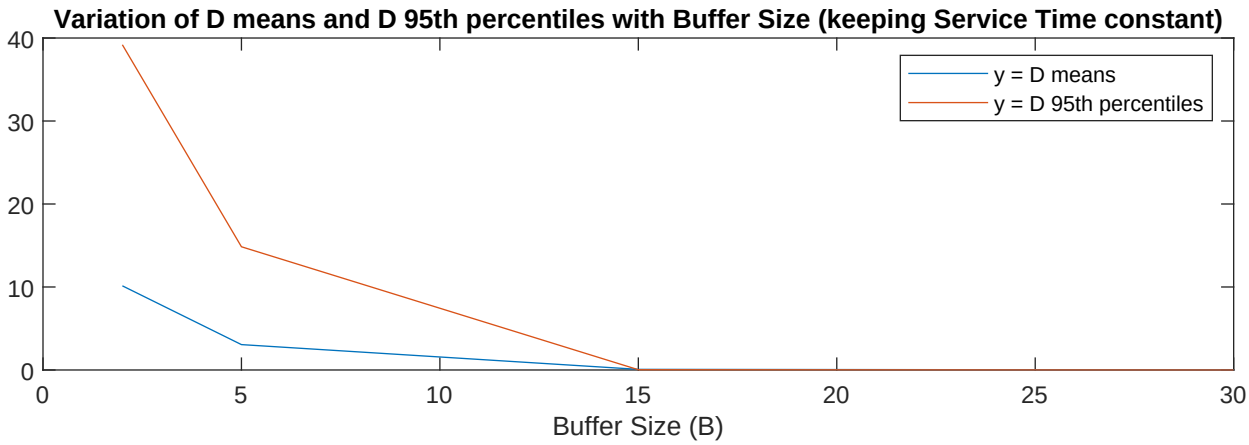
Variation of D means and D 95th percentiles with Buffer Size (keeping Service Time constant)
40
30
20
10
0
0
5
10
15
20
25
30
Buffer Size (B)
y = D means
y = D 95th percentiles

Task 2: Increasing the buffer size keeping the service time constant

Below T refers to Total time to service a packet and D refers to the total orbiting time for a packet

The buffer size is varied from B = 2 to 30 keeping service time constant at S = 5.

The graph shows that as the buffer size increases, the value of D (for both mean and 95^{th} percentile) decreases since there is a higher chance that with higher Buffer size, the incoming packet gets a seat in the buffer queue and does not spend time orbiting. It is also observed that the value of T (for both mean and 95^{th} percentile) slightly comes down initially as the orbiting time (D) reduces with increase in buffer size and then as the value of D approaches 0, the value of T becomes fairly constant for increasing values of buffer size.