TOPICS IN NETWORK

Assignment2 report

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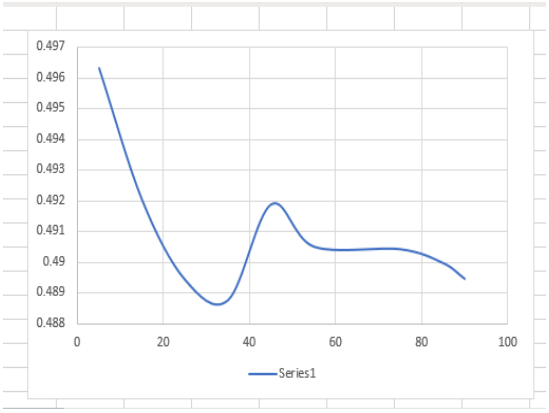
In this report we are comparing the performance of the scheduling scheme such as INQ ,KOUQ and ISLIP. We are analyzing the performance of these scheduling schemes based on parameters like Number of I/P or O/P ports (N), Buffer size(B), Packet generation probability (P) and value of K for KOUQ scheme.

For Default Buffer Size [4]

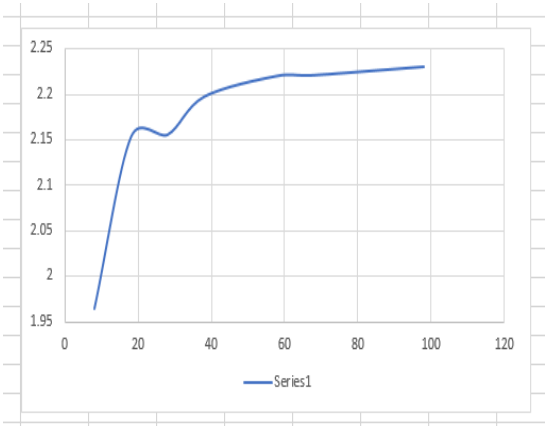
1)INQ

1)Graph between N & Link Utilization and N & Average Packet Delay for INQ with default buffer size 4 for P=.5 and P=1.

I] Packet Generation probability (P=.5):

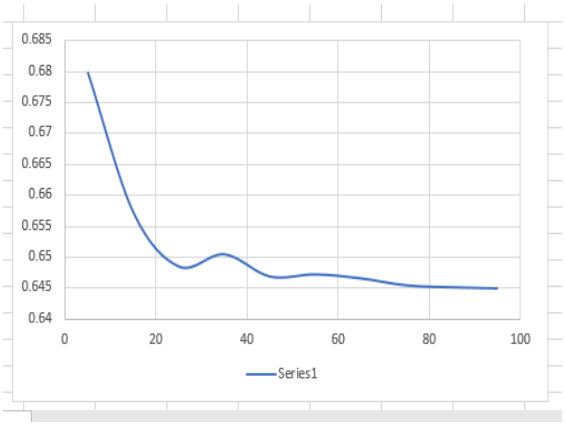


N vs Link utilization (fig-1a)

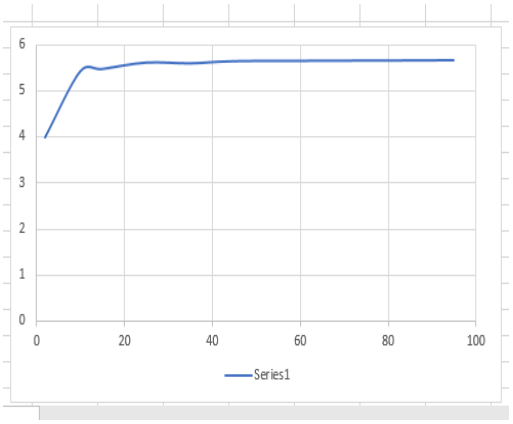


N vs Average Packet Delay(fig-1b)

II] Packet Generation probability (P=1):



N vs Link utilization (fig-1c)

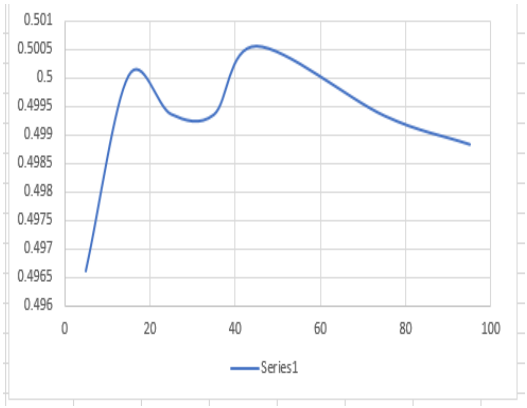


N vs average Packet Delay(fig-1d)

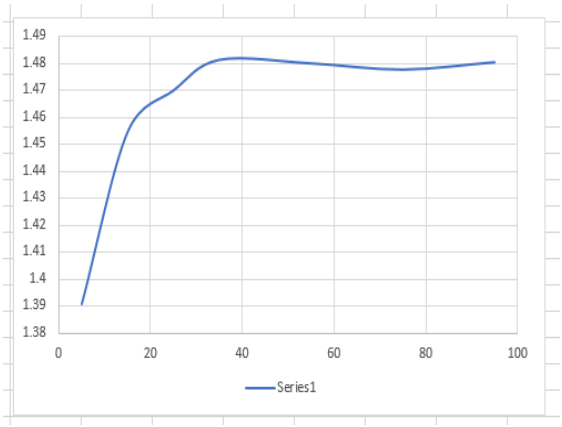
2)KOUQ

Graph between N & Link Utilization and N & Average Packet Delay for KQUQ with default K=.6N and default buffer size 4 for P=.5 and P=1.

I] Packet Generation probability (P=.5):

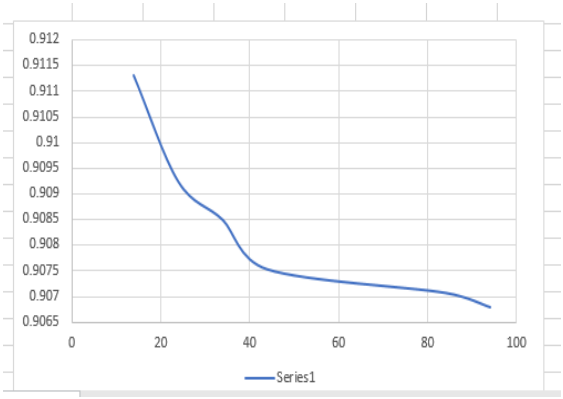


N VS s Link utilization (fig-2a)

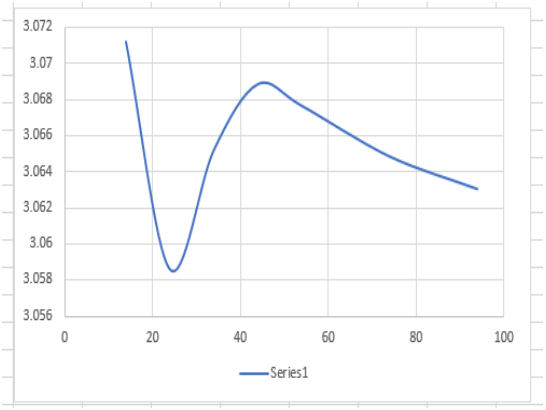


N VS Average Packet Delay (fig-2b)

II] Packet Generation probability (P=1):



N VS s Link utilization (fig-2c)

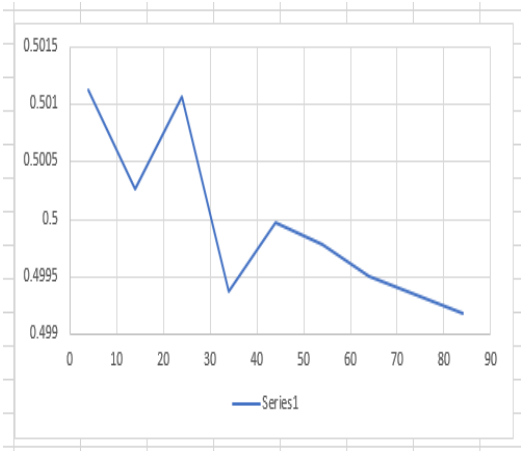


N VS Average Packet Delay(fig-2d)

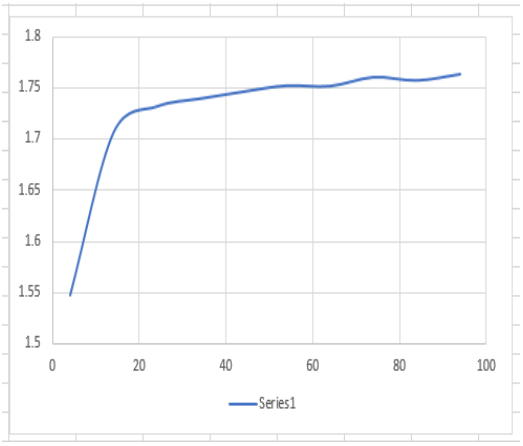
3)ISLIP

Graph between N & Link Utilization and N & Average Packet Delay for ISLIP with default default buffer size 4 for P=.5 and P=1.

I] Packet Generation probability (P=.5):

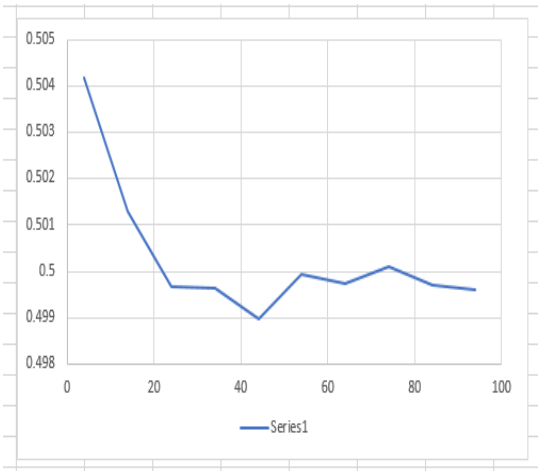


N VS s Link utilization (fig-3a)

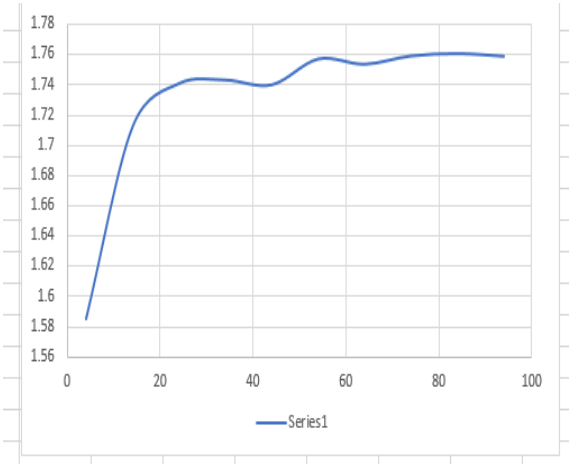


N VS Average Packet Delay(fig-3b)

I] Packet Generation probability (P=1)



N VS s Link utilization (fig-3c)



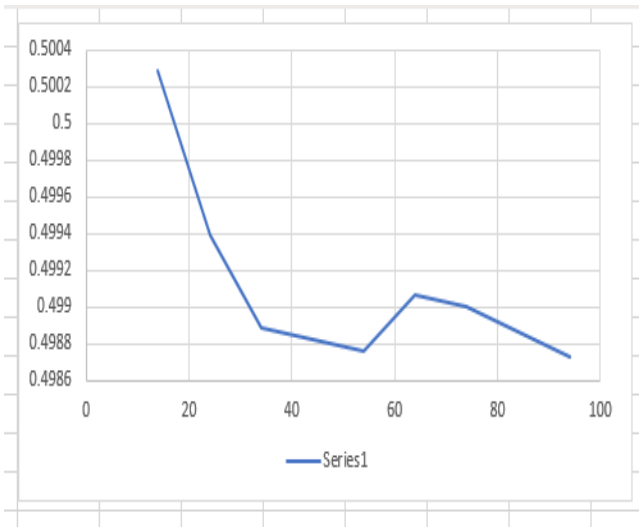
N VS Average Packet Delay(fig-3d)

Analysis:

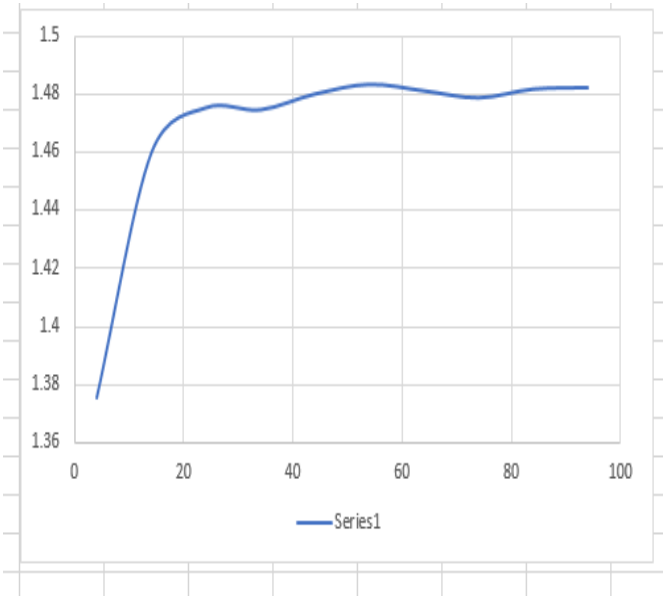
From the above graphs it can be easily seen that average packet delay of KOUQ is lesser than INQ and ISLIP. The value of average packet delay of KOUQ for default values is around 1.399. Link utilization of ISLIP is better than the other schemes when p is taken as 0.5. But when p is set as 1 the link utilization of KOUQ is much better than the others.

Graph between N Vs Link Utilization and N Vs Average Packet Delay for KQUQ with K=.8N and K=1N with default buffer size 4 and Packet Generation Probability(P=.5)

I] Knockout (K=.8N):

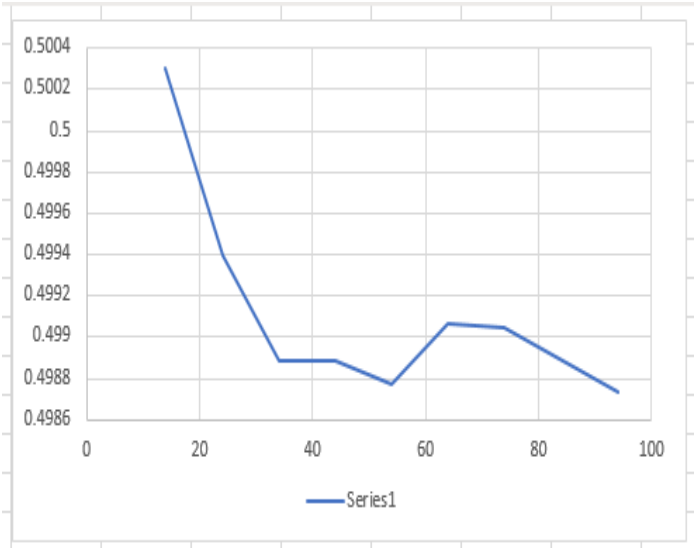


N VS Link Utilization(fig:1a)

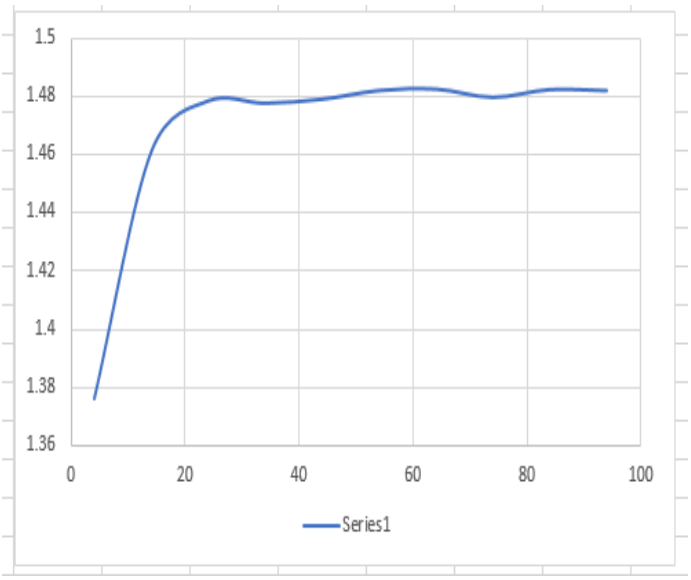


N VS Average Packet Delay(fig-2a)

II] Knockout (K=1N):



N VS Link Utilization(fig-2a)



N VS Average Packet Delay(fig-2b)

Analysis:

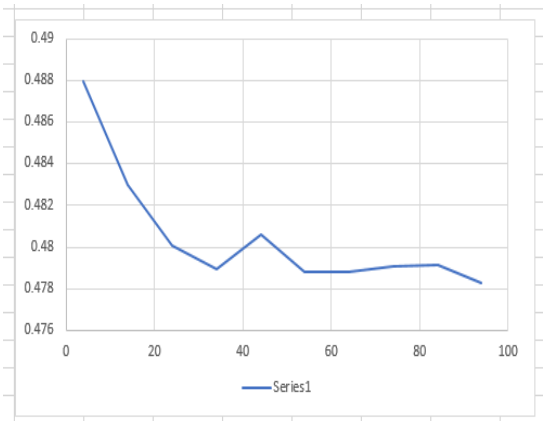
The value of average packet delay is slightly decreased by changing the k from 0.6N to 0.8N but values for k=0.8N and k=1.0N is approximately same. The link utilization remains same for all values of k.

For Default Packet Generation Probability (P=.5) and Buffer size 2 and 3.

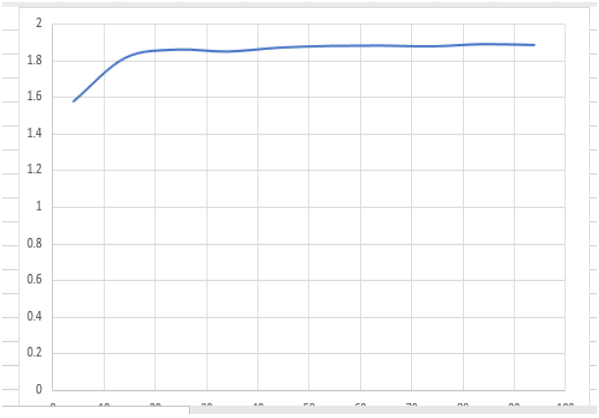
1)INQ

Graph between N & Link Utilization and N & Average Packet Delay for INQ with default Packet Generation Probability (P=.5) and Buffer size 2 and 3.

I]Buffer size (2):

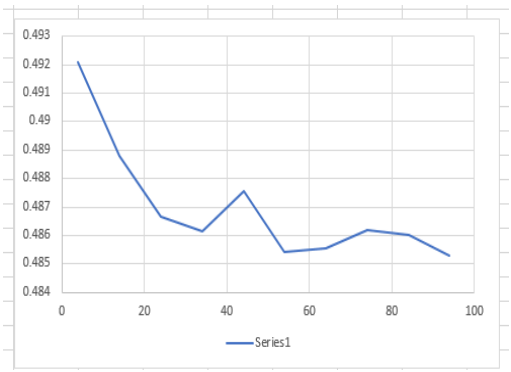


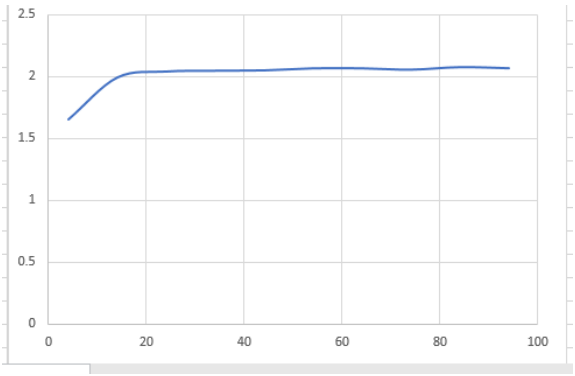
N VS Link Utilization(fig:1a)



N VS Average Packet Delay(fig:1b)

II] Buffer size (3)





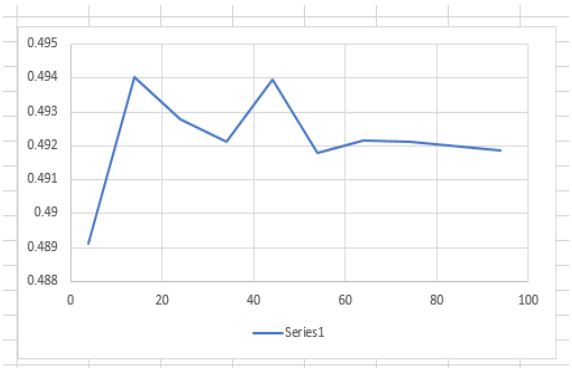
N VS Link Utilization(fig-2a)

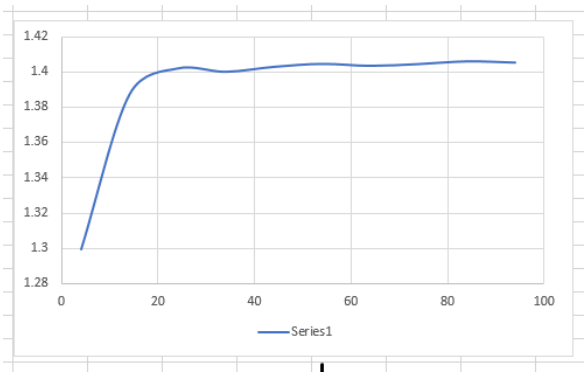
N VS Average Packet Delay(fig-2b)

2)KOUQ

Graph between N & Link Utilization and N & Average Packet Delay for KQUQ with default Packet Generation Probability (P=.5) and Buffer size 2 and 3.

I] Buffer Size (2)

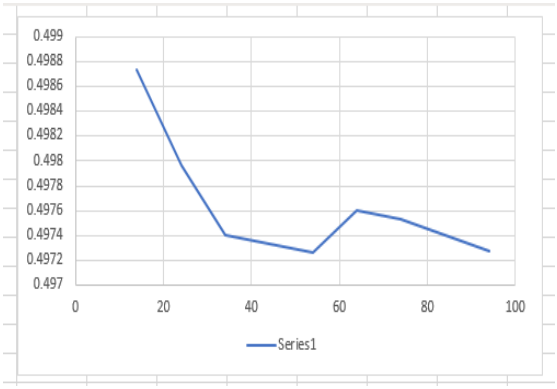


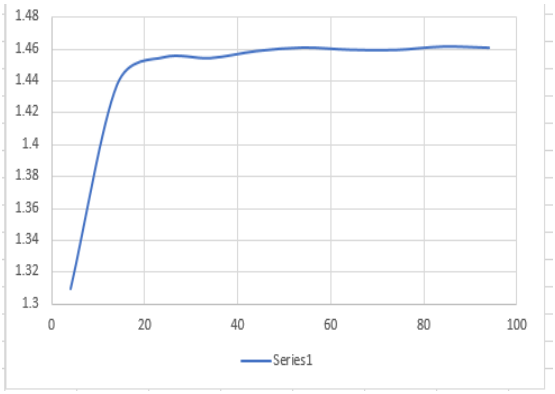


N VS Link utilization(fig-1a)

N VS Average Packet Delay(fig-1b)

II]Buffer size (3)





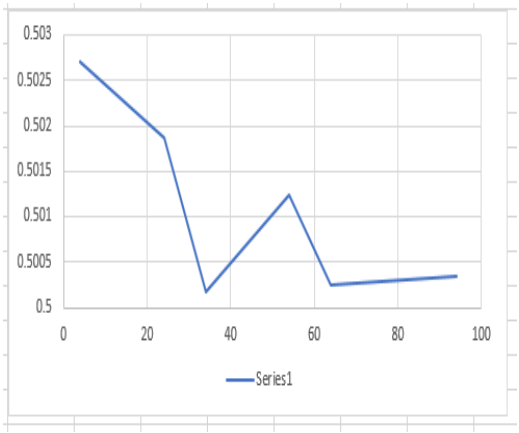
N VS Link utilization(fig-2a)

N VS Average Packet Delay(fig-2b)

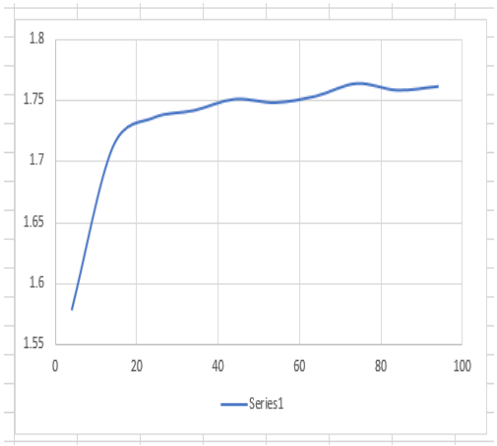
3)ISLIP

Graph between N & Link Utilization and N & Average Packet Delay for ISLIP with default Packet Generation Probability (P=.5) and Buffer size 2 and 3.

I] Buffer Size (2)

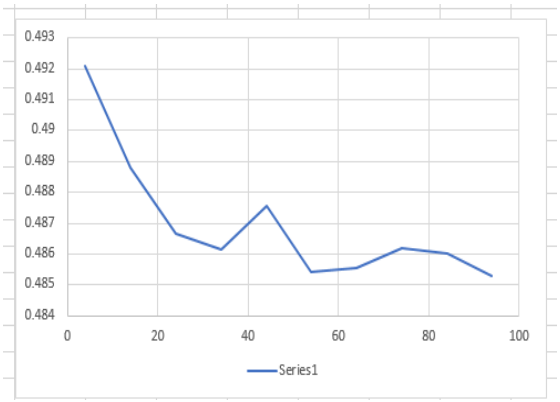


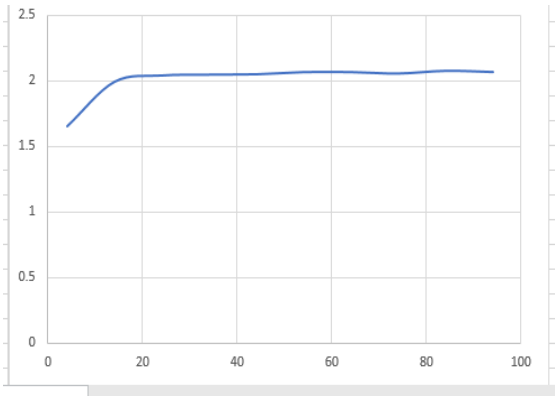
N VS Link utilization(fig-1a)



N VS Average Packet Delay(fig-1b)

II] Buffer Size (3)





N VS Link utilization(fig-2a)

N VS Average Packet delay (fig-2b)

Analysis:

In case of buffer size 2 and 3 the average packet delay of KOUQ shows lesser values. So, in terms of average packet delay the performance of KOUQ is better than the other schemes. And the link utilization is better in case of ISLIP.