

Computer Networks Assignment-2 (Phase II)

UDP-RDT-with Selective Repeat-Protocol

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Our team has implementing file transfer using UDP as the transport layer protocol, also we ensured the data transfer reliability.

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Specs:

Window size is 20

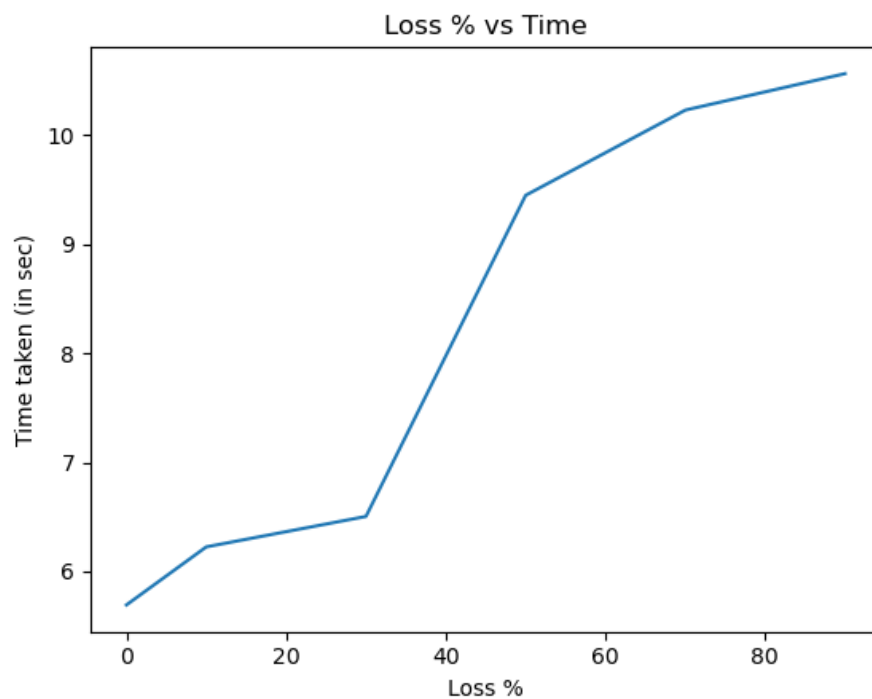
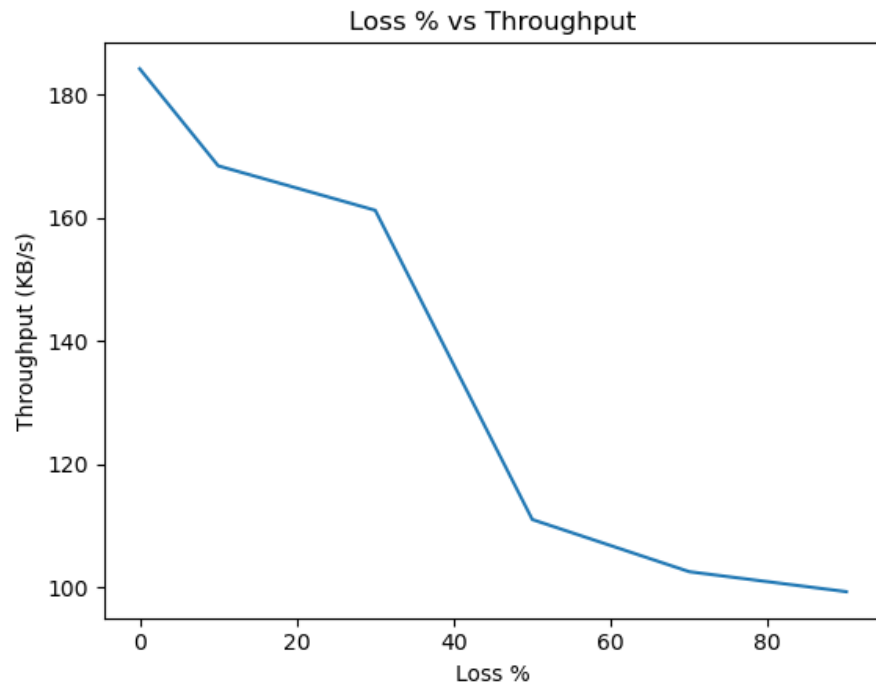
File size is 1MB

Maximum segment size is 128 Bytes

Results:

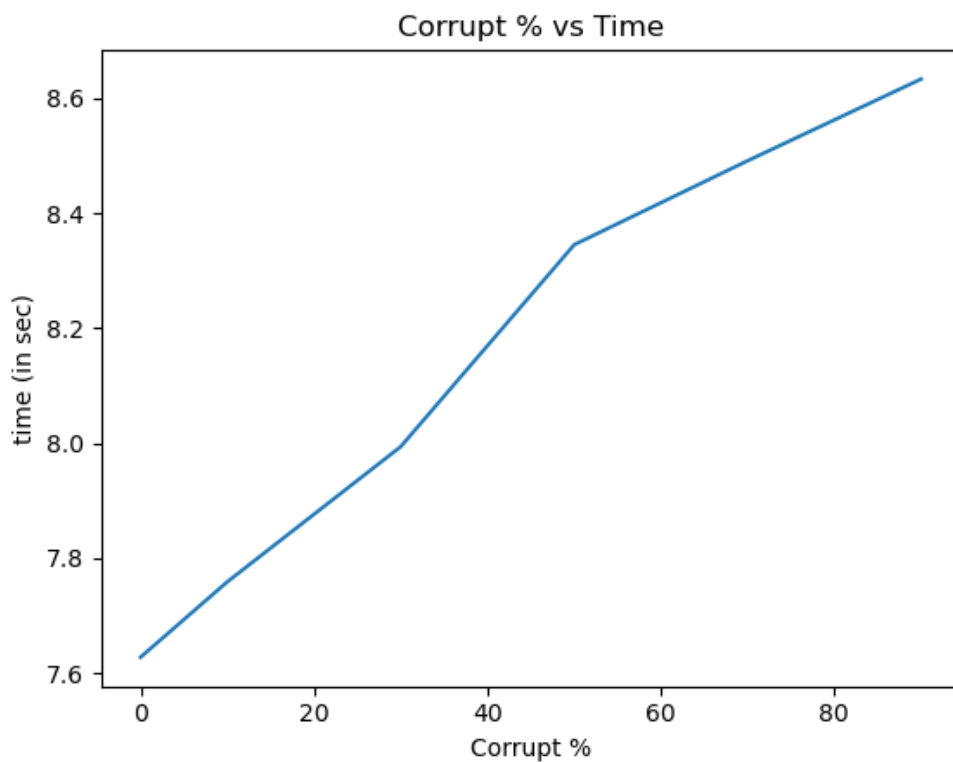
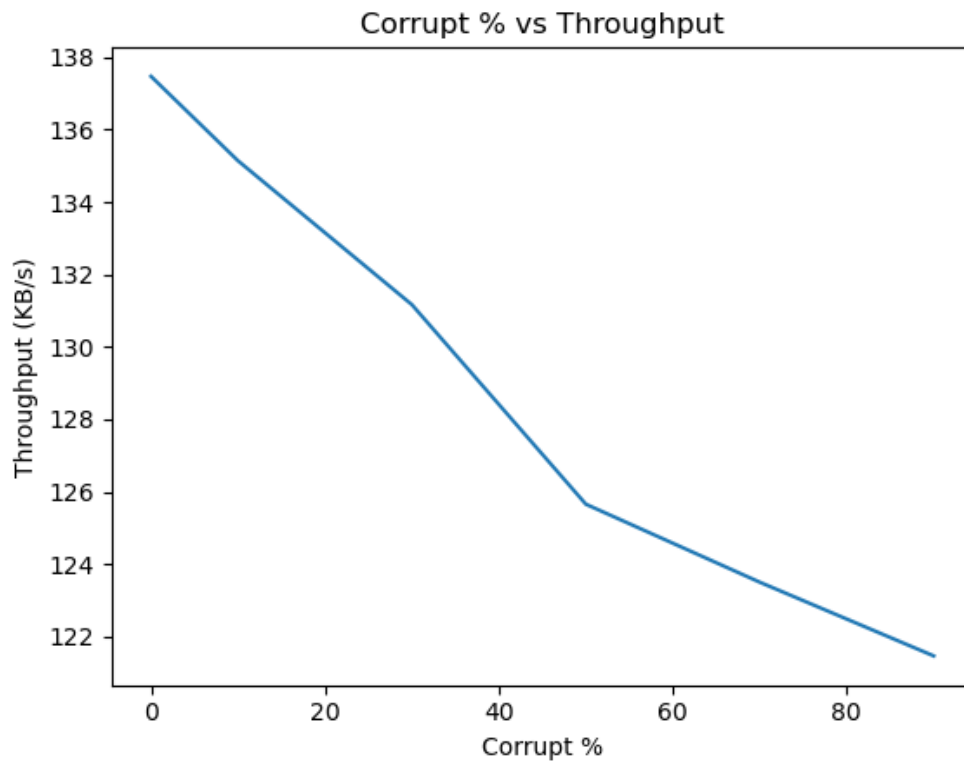
	Data Points					
	1	2	3	4	5	6
	Loss					
	0%	10%	30%	50%	70%	90%
Throughput (Bytes/s)	184190.21	168432.55	161212.05	110997.79	102522.51	99280.25
	Reorder (with 1s as delay)					
	0%	10%	30%	50%	70%	90%
Throughput (Bytes/s)	196475.99	182755.38	195771.49	198469.81	170123.12	176341.14
	Corruption					
	0%	10%	30%	50%	70%	90%
Throughput (Bytes/s)	137470.08	135139.03	131163.51	125653.63	123499.14	121463.42
	Delay					
	0s	1s	2s	3s	4s	5s
Throughput (Bytes/s)	134647.31	130028.82	124193.94	120131.40	111259.59	109471.65
	Jitter					
	0s	1s	2s	3s	4s	5s
Throughput (Bytes/s)	152592.65	146598.13	144555.93	138128.89	132332.49	118030.34
	Loss					
	0%	10%	30%	50%	70%	90%
Time (sec)	5.69	6.23	6.50	9.45	10.23	10.56
	Reorder (with 1s as delay)					
	0%	10%	30%	50%	70%	90%
Time (sec)	5.34	5.74	5.36	5.28	6.16	5.95
	Corruption					
	0%	10%	30%	50%	70%	90%
Time (sec)	7.63	7.76	7.99	8.34	8.49	8.63
	Delay					
	0s	1s	2s	3s	4s	5s
Time (sec)	7.79	8.06	8.44	8.73	9.42	9.58
	Jitter					
	0s	1s	2s	3s	4s	5s
Time (sec)	6.87	7.15	7.25	7.59	7.92	8.88

Packet Loss



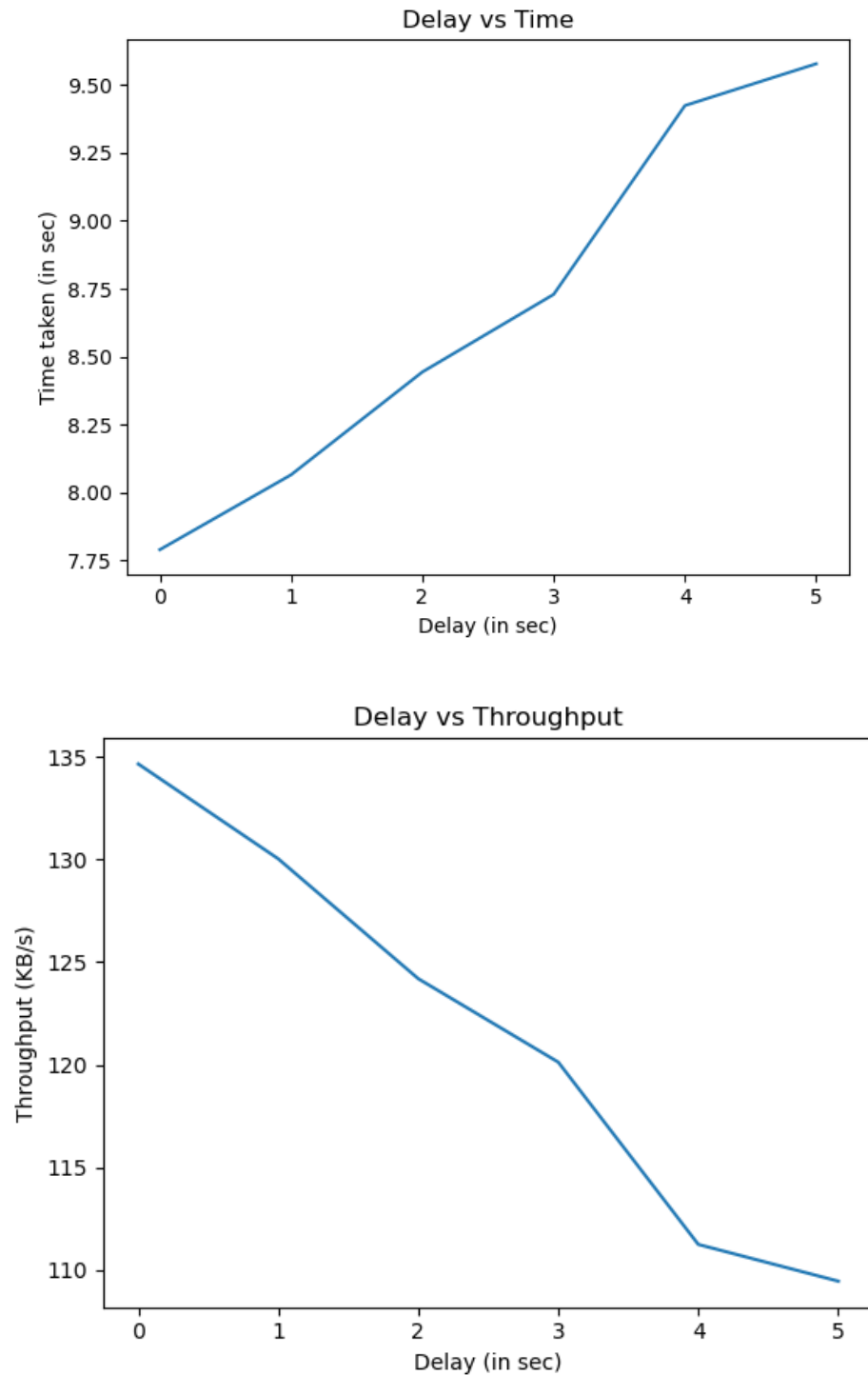
Observation: - From the above figure we can see that as loss increases, time taken also increases. But the effect of Loss % on throughput is high.

Packet Corruption



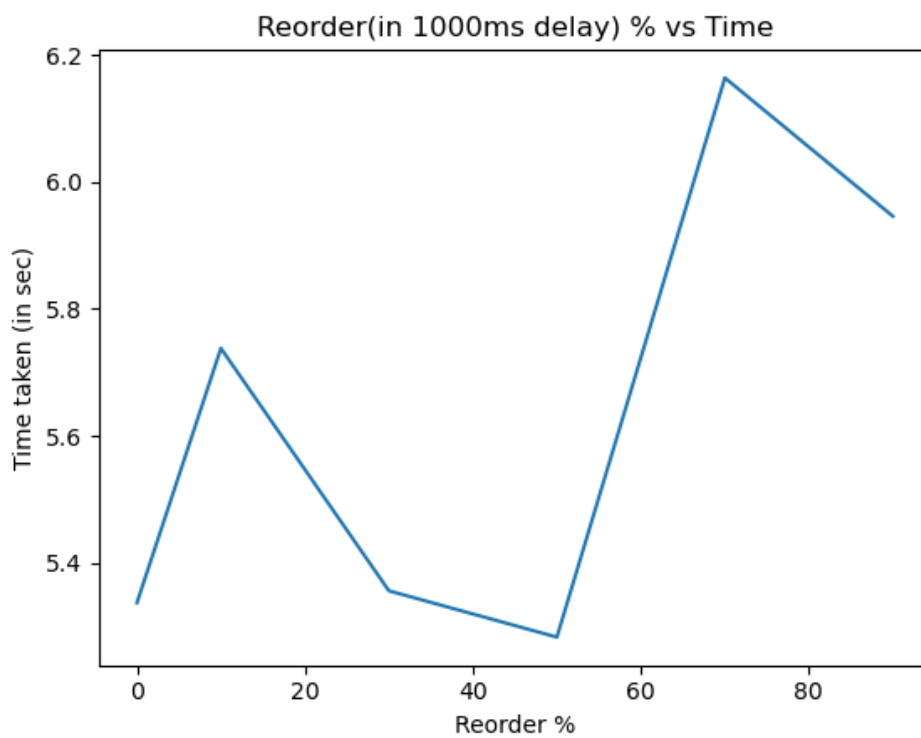
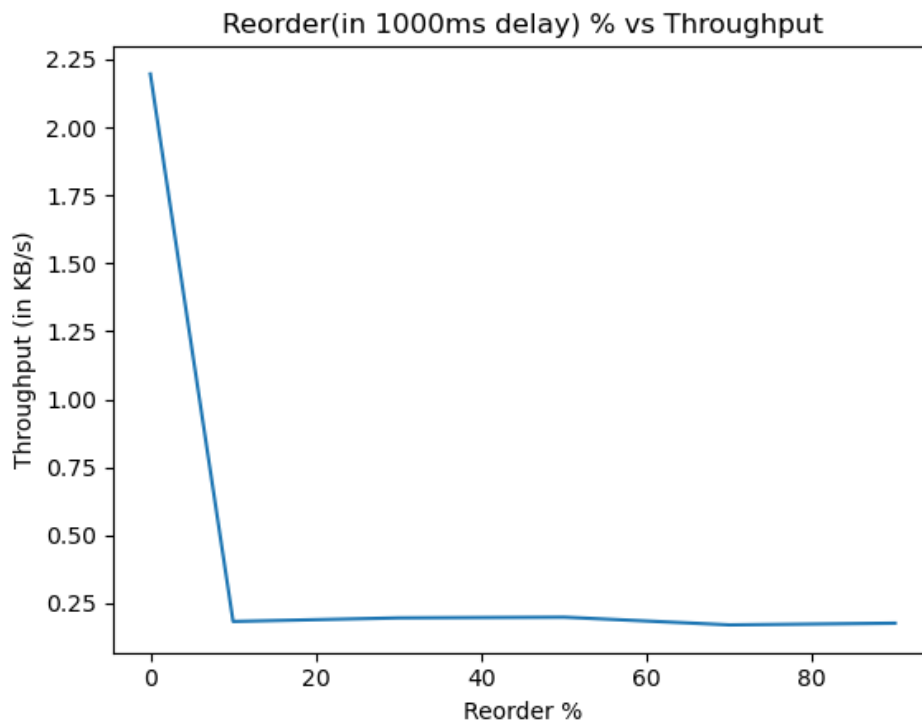
Observation: - We know that dropped packets directly has an effect on packet lost. So, these two are similar. So as the corrupt % increases the throughput decrease and as time increases corrupt % also increases.

Packet Delay



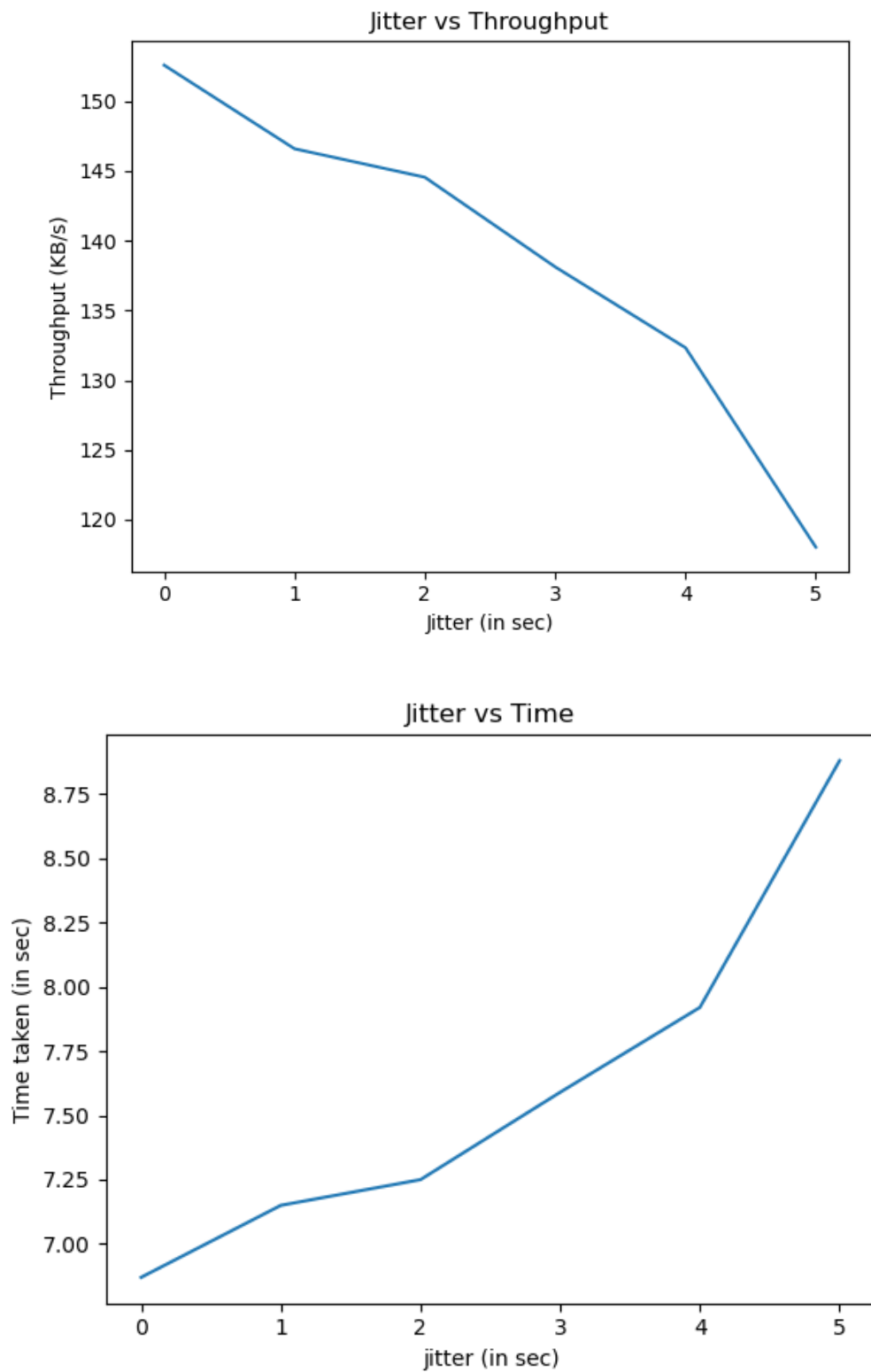
Observation: - As we know the time taken increases with increase in packet delay as theoretical and coming to the throughput decreases as the delay increases which is correct.

Packet Reorder



Observation: - We have observed that after 20% reorder the increase in reorder has not much effect on throughput.

Network Jitter



Observation: - Jitter has almost minimal effect on throughput or time. The jitter increases as time increases and throughput decreases as jitter increases

