Results

Terminal outputs are displayed for the tests run in different situations.

Packet Loss

Please enter packet loss percentage0%
Time for which client executed: [18.72153]
Server received,sent ; Client recvd,sent in order [78, 78, 78, 78]
Total packets across network: 156
Throughput 8.332652299251182

Please enter packet loss percentage0%
Time for which client executed: [18.331692]
Server received,sent ; Client recvd,sent in order [79, 79, 79, 79]
Total packets across network: 158
Throughput 8.618953449577923

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage0%
Time for which client executed: [18.72153]
Server received,sent ; Client recvd,sent in order [78, 78, 78, 78]
Total packets across network: 156
Throughput 8.332652299251182
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage0%
Time for which client executed: [18.331692]
Server received,sent ; Client recvd,sent in order [79, 79, 79, 79]
Total packets across network: 158
Throughput 8.618953449577923
```

Packet loss :10%
[79.778282]
[63, 63, 59, 73]
Total packets across network: 122
1.5292382455666318

Time for which client executed: [87.408049]
[64, 64, 60, 75]
Total packets across network: 124
1.4186336546649152

```
smit@smit-Flex-3-1580: /media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-with-RD...
File Edit View Search Terminal Tabs Help
smit@smi...  ×   smit@smi...  ×   smit@smi...  ×   smit@smi...  ×   smit@smi...  ×
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
[79.778282]
[63, 63, 59, 73]
Total packets across network: 122
1.5292382455666318
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Time for which client executed: [87.408049]
[64, 64, 60, 75]
Total packets across network: 124
1.4186336546649152
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Time for which client executed: [87.408049]
[64, 64, 60, 75]
Total packets across network: 124
1.4186336546649152
```

Packet loss : 30%

Please enter packet loss percentage30%
Time for which client executed: [105.855889]
[59, 59, 40, 74]
Total packets across network: 99
0.9352337497255349

Please enter packet loss percentage30%
Time for which client executed: [134.845197]
[69, 69, 50, 97]
Total packets across network: 119
0.8824934268886121

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage30%
Time for which client executed: [105.855889]
[59, 59, 40, 74]
Total packets across network: 99
0.9352337497255349
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage10%
Time for which client executed: [87.408049]
[64, 64, 60, 75]
Total packets across network: 124
1.4186336546649152
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage30%
Time for which client executed: [134.845197]
[69, 69, 50, 97]
Total packets across network: 119
0.8824934268886121
```

Packet Loss : 50%
Time for which client executed: [165.233292]
Server received,sent ; Client recvd,sent in order [48, 48, 23, 95]
Total packets across network: 71
Throughput 0.4296954877592102

Please enter packet loss percentage50%
Time for which client executed: [143.006938]
Server received,sent ; Client recvd,sent in order [43, 43, 20, 83]
Total packets across network: 63
Throughput 0.4405380667614882

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage50%
Time for which client executed: [165.233292]
Server received,sent ; Client recvd,sent in order [48, 48, 23, 95]
Total packets across network: 71
Throughput 0.4296954877592102
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage50%
Time for which client executed: [143.006938]
Server received,sent ; Client recvd,sent in order [43, 43, 20, 83]
Total packets across network: 63
Throughput 0.4405380667614882
```

Packet Loss : 70%
Please enter packet loss percentage70%
Time for which client executed: [285.529816]
Server received,sent ; Client recvd,sent in order [52, 52, 17, 148]

Total packets across network: 69
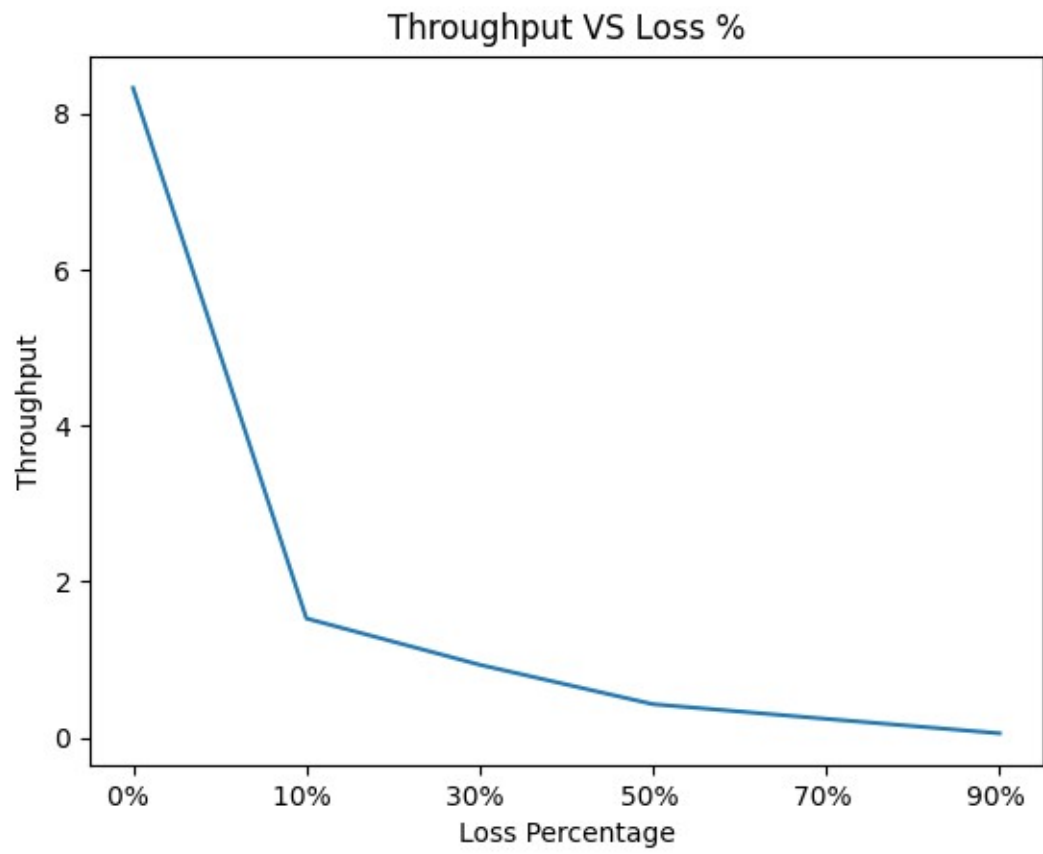Throughput 0.24165602376180567

Please enter packet loss percentage70%
Time for which client executed: [337.896712]
Server received,sent ; Client recvd,sent in order [47, 47, 13, 176]
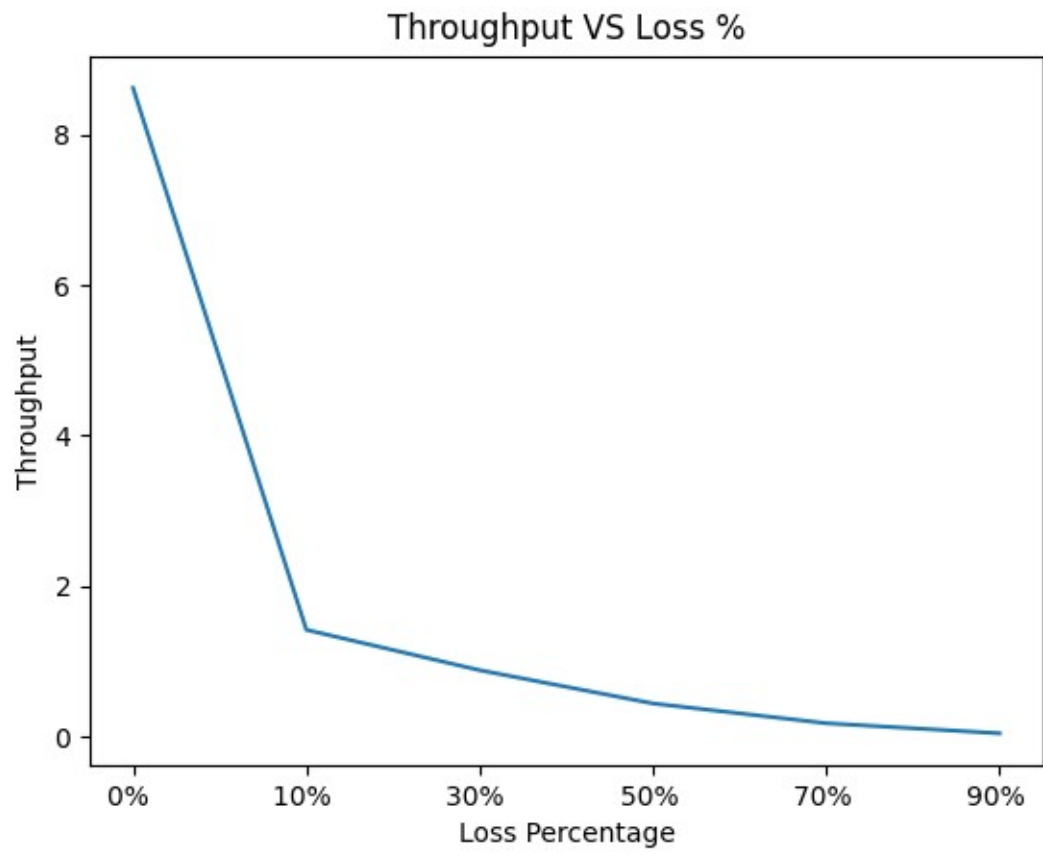Total packets across network: 60
Throughput 0.17756905548107257

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage70%
Time for which client executed: [285.529816]
Server received,sent ; Client recvd,sent in order [52, 52, 17, 148]
Total packets across network: 69
Throughput 0.24165602376180567
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage70%
Time for which client executed: [337.896712]
Server received,sent ; Client recvd,sent in order [47, 47, 13, 176]
Total packets across network: 60
Throughput 0.17756905548107257
```

Packet Loss : 90%
Please enter packet loss percentage90%
Time for which client executed: [1063.260322]
Server received,sent ; Client recvd,sent in order [54, 54, 6, 529]
Total packets across network: 60
Throughput 0.05643020693854124

Please enter packet loss percentage90%
Time for which client executed: [679.694487]
Server received,sent ; Client recvd,sent in order [28, 28, 2, 337]
Total packets across network: 30
Throughput 0.044137477313391835

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage90%
Time for which client executed: [1063.260322]
Server received,sent ; Client recvd,sent in order [54, 54, 6, 529]
Total packets across network: 60
Throughput 0.05643020693854124
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/U
DP-with-RDT-Protocol/results$ python3 throughput.py
Please enter packet loss percentage90%
Time for which client executed: [679.694487]
Server received,sent ; Client recvd,sent in order [28, 28, 2, 337]
Total packets across network: 30
Throughput 0.044137477313391835
```

Throughput VS Loss %

Throughput VS Loss %

Packet Delay

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms600
Time for which client executed: [44.722276]
Server received,sent ; Client recvd,sent in order [31, 31, 30, 30]
Total packets across network: 60
Throughput 1.341613293563145
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms600
Time for which client executed: [48.757828]
Server received,sent ; Client recvd,sent in order [30, 30, 30, 30]
Total packets across network: 60
Throughput 1.230571632518167
```

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms1200
Time for which client executed: [96.161398]
Server received,sent ; Client recvd,sent in order [47, 47, 31, 47]
Total packets across network: 78
Throughput 0.8111362940043779
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms1200
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms1200
Time for which client executed: [61.588368]
Server received,sent ; Client recvd,sent in order [30, 30, 20, 30]
Total packets across network: 50
Throughput 0.8118416126889415
```
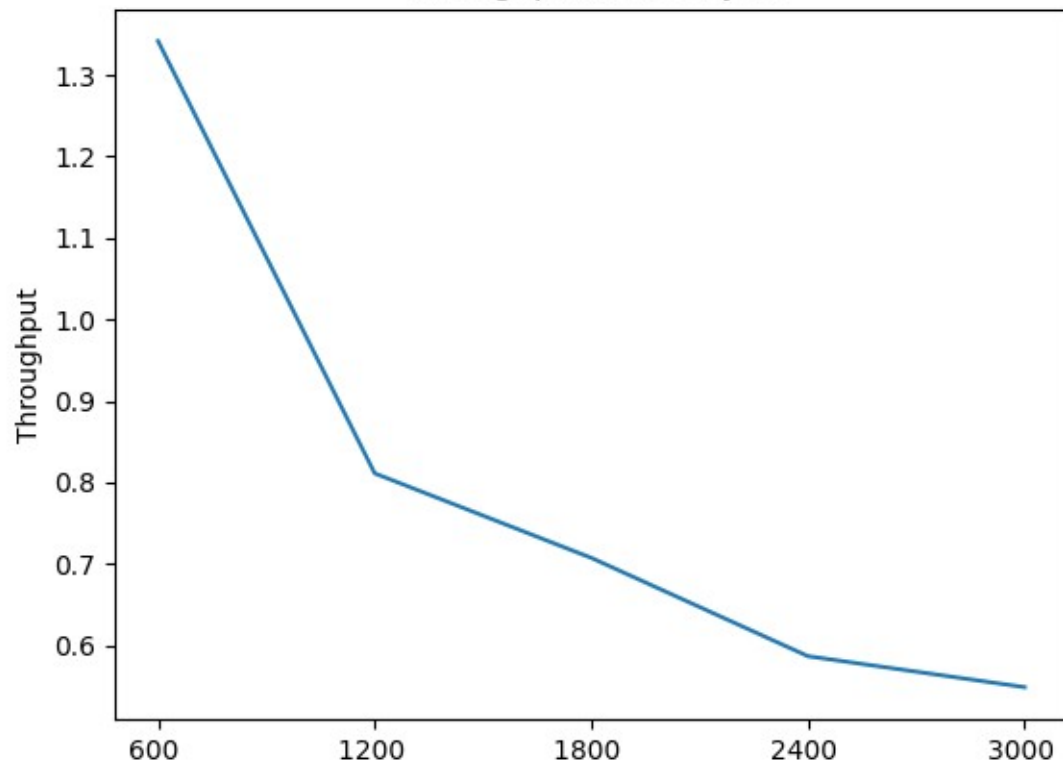
```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms1800
Time for which client executed: [46.650376]
Server received,sent ; Client recvd,sent in order [22, 22, 11, 22]
Total packets across network: 33
Throughput 0.7073897968153569
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms1800
Time for which client executed: [87.827279]
Server received,sent ; Client recvd,sent in order [40, 40, 20, 40]
Total packets across network: 60
Throughput 0.6831590444695435
```

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms2400
Time for which client executed: [97.145887]
Server received,sent ; Client recvd,sent in order [40, 40, 17, 40]
Total packets across network: 57
Throughput 0.5867464054345399
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms2400
Time for which client executed: [83.955947]
Server received,sent ; Client recvd,sent in order [35, 35, 15, 36]
Total packets across network: 50
Throughput 0.5955504259870954
```
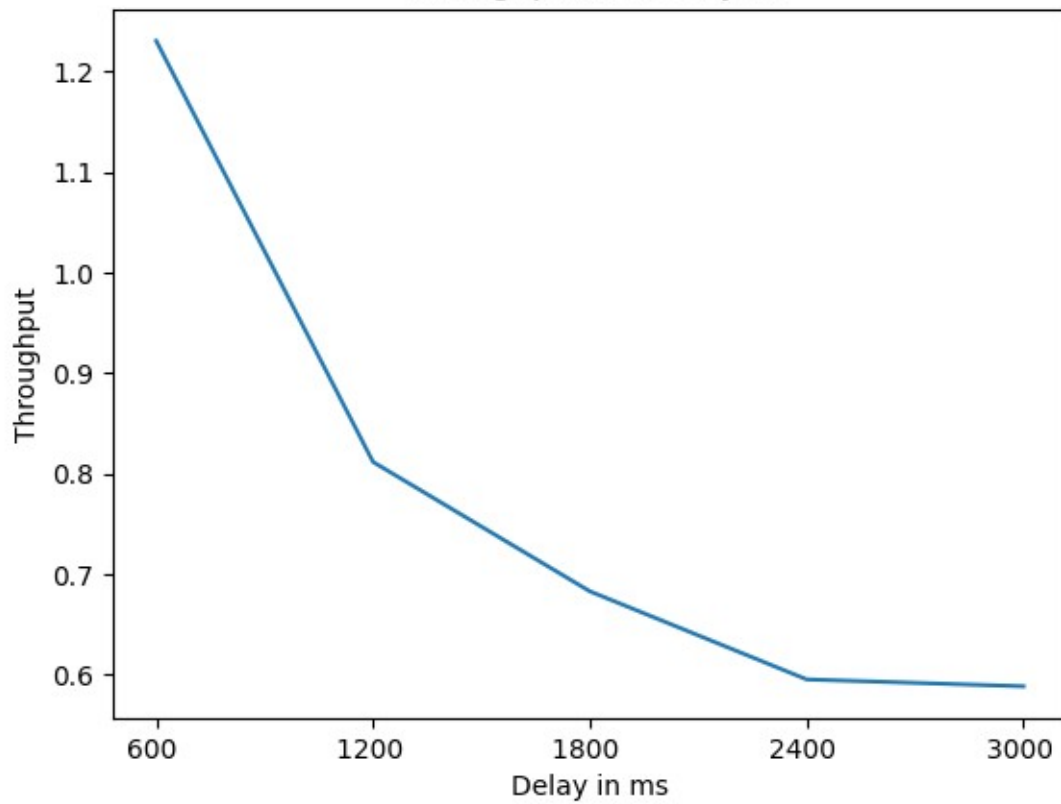
```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms3000
Time for which client executed: [101.582653]
Server received,sent ; Client recvd,sent in order [45, 45, 15, 45]
Total packets across network: 60
Throughput 0.5906520279599313
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms3000
Time for which client executed: [82.000726]
Server received,sent ; Client recvd,sent in order [33, 33, 12, 33]
Total packets across network: 45
Throughput 0.5487756291328445
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet delay in ms3000
Time for which client executed: [115.507941]
Server received,sent ; Client recvd,sent in order [51, 51, 17, 51]
Total packets across network: 68
Throughput 0.5887041134254137
```

Throughput VS Delay %

Throughput VS Delay %

Packet Corruption

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 40
Time for which client executed: [79.501625]
Server received,sent ; Client recvd,sent in order [42, 42, 30, 61]
Total packets across network: 72
Throughput 0.9056418658109189
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 40
Time for which client executed: [74.080905]
Server received,sent ; Client recvd,sent in order [31, 31, 24, 52]
Total packets across network: 55
Throughput 0.7424315348199377
```

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 60
Time for which client executed: [172.502581]
Server received,sent ; Client recvd,sent in order [49, 49, 15, 93]
Total packets across network: 64
Throughput 0.3710089415995463
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 60
Time for which client executed: [200.373209]
Server received,sent ; Client recvd,sent in order [46, 46, 15, 109]
Total packets across network: 61
Throughput 0.3044319163446646
```

```
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 80
Time for which client executed: [208.255245]
Server received,sent ; Client recvd,sent in order [17, 17, 4, 106]
Total packets across network: 21
Throughput 0.10083779642620766
smit@smit-Flex-3-1580:/media/smit/CMS/BITS/3-2/CSF303_CompNetworks/Assignment3/UDP-w
ith-RDT-Protocol/results$ python3 throughput.py
Please enter packet corruption in %: 80
Time for which client executed: [223.395478]
Server received,sent ; Client recvd,sent in order [23, 23, 5, 112]
Total packets across network: 28
Throughput 0.12533825774217328
```

Throughput VS Corruption %

Throughput VS Corruption %