

CSE421: Computer Networks

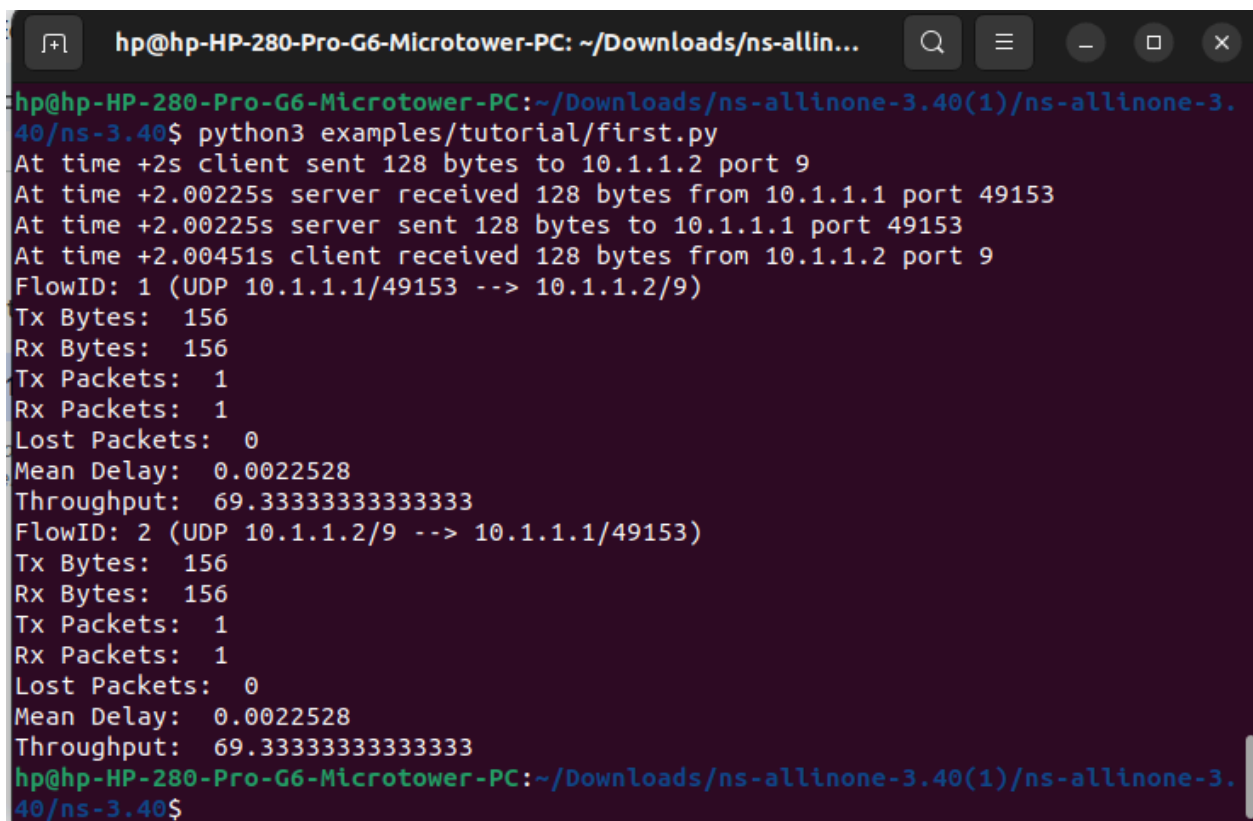
Lab 2

Sec: 6

Name: Rodoshie Rehecan

ID: 21301417

1. Data: 128 bytes, Throughput: 69.33



```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
At time +2s client sent 128 bytes to 10.1.1.2 port 9
At time +2.00225s server received 128 bytes from 10.1.1.1 port 49153
At time +2.00225s server sent 128 bytes to 10.1.1.1 port 49153
At time +2.00451s client received 128 bytes from 10.1.1.2 port 9
FlowID: 1 (UDP 10.1.1.1/49153 --> 10.1.1.2/9)
Tx Bytes: 156
Rx Bytes: 156
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0022528
Throughput: 69.33333333333333
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 156
Rx Bytes: 156
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0022528
Throughput: 69.33333333333333
hp@hp-HP-280-Pro-G6-Microtower-PC:~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$
```

2. Data: 256 bytes, Throughput: 126.23

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
At time +2s client sent 256 bytes to 10.1.1.2 port 9
At time +2.00246s server received 256 bytes from 10.1.1.1 port 49153
At time +2.00246s server sent 256 bytes to 10.1.1.1 port 49153
At time +2.00492s client received 256 bytes from 10.1.1.2 port 9
FlowID: 1 (UDP 10.1.1.1/49153 --> 10.1.1.2/9)
Tx Bytes: 284
Rx Bytes: 284
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0024576
Throughput: 126.2222222222223
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 284
Rx Bytes: 284
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0024576
Throughput: 126.2222222222223
hp@hp-HP-280-Pro-G6-Microtower-PC:~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$
```

3. Data: 512 bytes, Throughput: 240

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
At time +2s client sent 512 bytes to 10.1.1.2 port 9
At time +2.00287s server received 512 bytes from 10.1.1.1 port 49153
At time +2.00287s server sent 512 bytes to 10.1.1.1 port 49153
At time +2.00573s client received 512 bytes from 10.1.1.2 port 9
FlowID: 1 (UDP 10.1.1.1/49153 --> 10.1.1.2/9)
Tx Bytes: 540
Rx Bytes: 540
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0028672
Throughput: 240.0
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 540
Rx Bytes: 540
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0028672
Throughput: 240.0
hp@hp-HP-280-Pro-G6-Microtower-PC:~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$
```

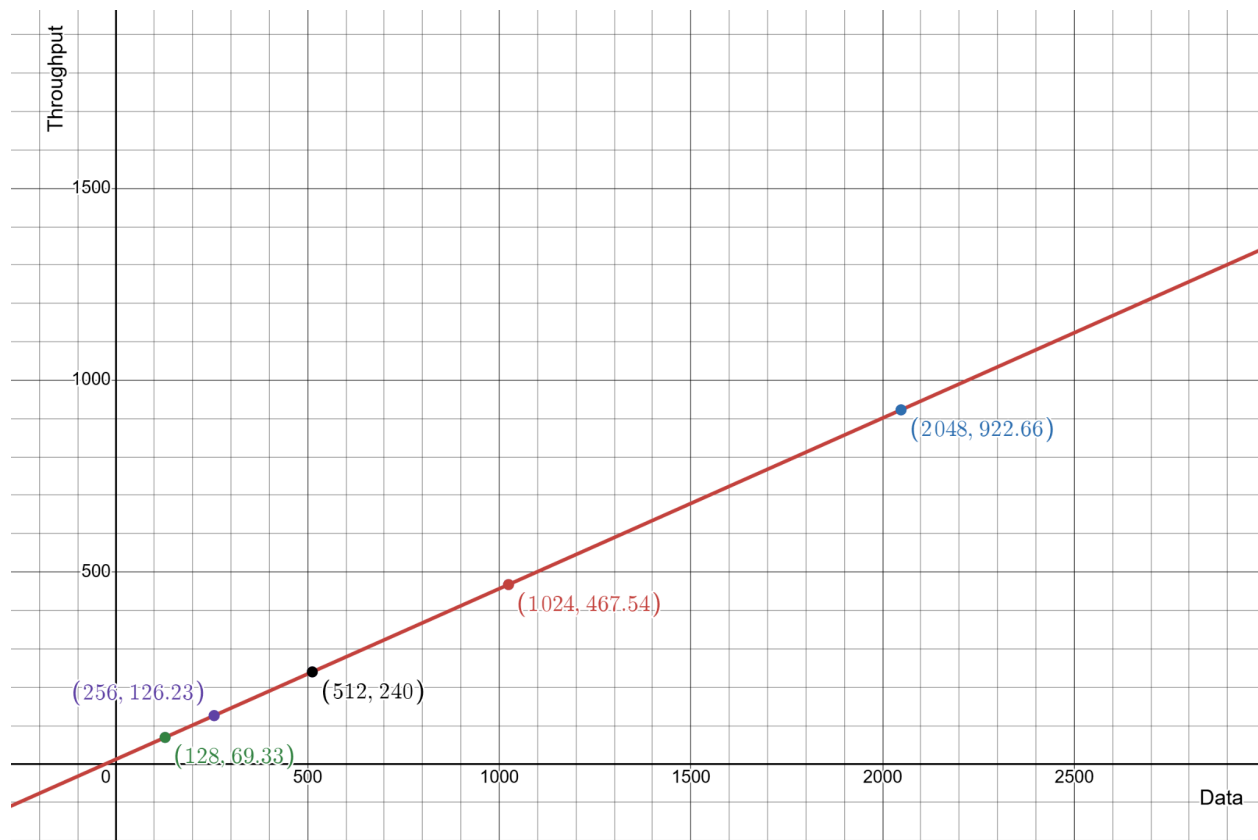
4. Data: 1024 bytes, Throughput: 467.54

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
At time +2s client sent 1024 bytes to 10.1.1.2 port 9
At time +2.00369s server received 1024 bytes from 10.1.1.1 port 49153
At time +2.00369s server sent 1024 bytes to 10.1.1.1 port 49153
At time +2.00737s client received 1024 bytes from 10.1.1.2 port 9
FlowID: 1 (UDP 10.1.1.1/49153 --> 10.1.1.2/9)
Tx Bytes: 1052
Rx Bytes: 1052
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0036864
Throughput: 467.5555555555554
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 1052
Rx Bytes: 1052
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.0036864
Throughput: 467.5555555555554
hp@hp-HP-280-Pro-G6-Microtower-PC:~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$
```

5. Data: 2048 bytes, Throughput: 922.66

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
At time +2s client sent 2048 bytes to 10.1.1.2 port 9
At time +2.00536s server received 2048 bytes from 10.1.1.1 port 49153
At time +2.00536s server sent 2048 bytes to 10.1.1.1 port 49153
At time +2.01072s client received 2048 bytes from 10.1.1.2 port 9
FlowID: 1 (UDP 10.1.1.1/49153 --> 10.1.1.2/9)
Tx Bytes: 2076
Rx Bytes: 2076
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.00536
Throughput: 922.6666666666666
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 2076
Rx Bytes: 2076
Tx Packets: 1
Rx Packets: 1
Lost Packets: 0
Mean Delay: 0.00536
Throughput: 922.6666666666666
hp@hp-HP-280-Pro-G6-Microtower-PC:~/Downloads/ns-allinone-3.40(1)/ns-allinone-3.40/ns-3.40$
```

Graph: Data Size vs Throughput



As shown in the above graph, Throughput is proportional to Data size. With the increment of data size, throughput also increases.