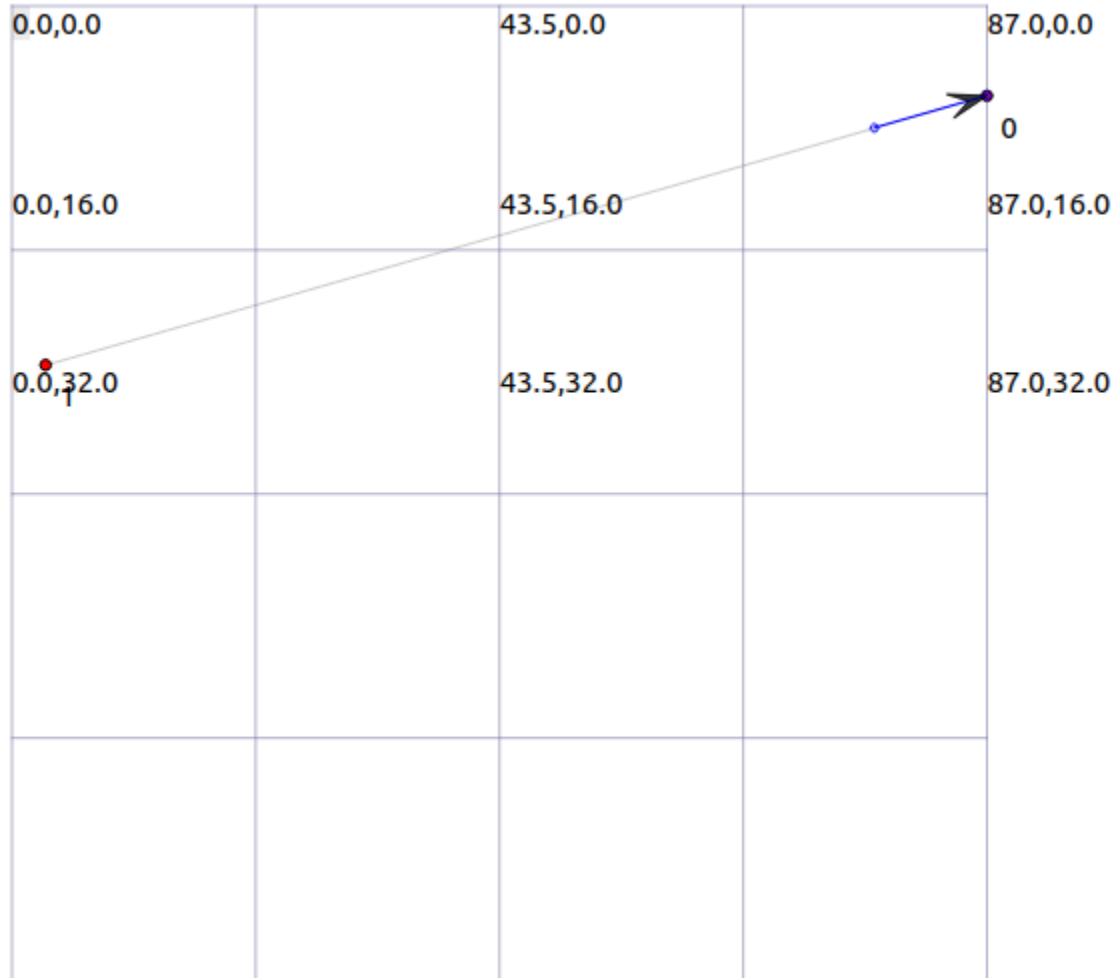


## Using NS-3

```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
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
```



2048

```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
At time +2s client sent 2048 bytes to 10.1.1.2 port 9
At time +2.00568s server received 2048 bytes from 10.1.1.1 port 49153
At time +2.00568s server sent 2048 bytes to 10.1.1.1 port 49153
At time +2.01136s 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
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.00568
Throughput: 922.6666666666666
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 2076
Rx Bytes: 2076
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.00568
Throughput: 922.6666666666666
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$
```

1024

```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
At time +2s client sent 1024 bytes to 10.1.1.2 port 9
At time +2.00484s server received 1024 bytes from 10.1.1.1 port 49153
At time +2.00484s server sent 1024 bytes to 10.1.1.1 port 49153
At time +2.00969s 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
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0048432
Throughput: 467.55555555555554
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 1052
Rx Bytes: 1052
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0048432
Throughput: 467.55555555555554
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$
```

128

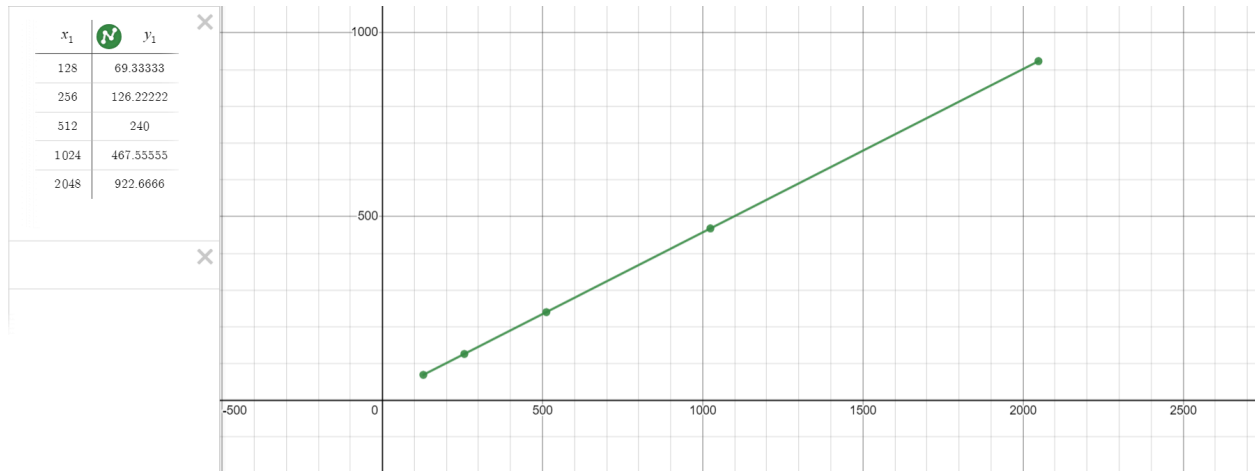
```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
At time +2s client sent 128 bytes to 10.1.1.2 port 9
At time +2.00413s server received 128 bytes from 10.1.1.1 port 49153
At time +2.00413s server sent 128 bytes to 10.1.1.1 port 49153
At time +2.00825s 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
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0041264
Throughput: 69.33333333333333
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 156
Rx Bytes: 156
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0041264
Throughput: 69.33333333333333
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$
```

256

```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
At time +2s client sent 256 bytes to 10.1.1.2 port 9
At time +2.00423s server received 256 bytes from 10.1.1.1 port 49153
At time +2.00423s server sent 256 bytes to 10.1.1.1 port 49153
At time +2.00846s 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
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0042288
Throughput: 126.22222222222223
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 284
Rx Bytes: 284
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0042288
Throughput: 126.22222222222223
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$
```

512

```
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$ python3 examples/tutorial/first.py
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
At time +2s client sent 512 bytes to 10.1.1.2 port 9
At time +2.00443s server received 512 bytes from 10.1.1.1 port 49153
At time +2.00443s server sent 512 bytes to 10.1.1.1 port 49153
At time +2.00887s 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
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0044336
Throughput: 240.0
FlowID: 2 (UDP 10.1.1.2/9 --> 10.1.1.1/49153)
Tx Bytes: 540
Rx Bytes: 540
quot;Tx Packets: 1
quot;Rx Packets: 1
quot;Lost Packets: 0
Mean Delay: 0.0044336
Throughput: 240.0
ub71102@ub71102-HP-280-Pro-G8-Microtower-PC:~/Downloads/ns-allinone-3.40/ns-3.40$
```



Here the x-axis represents data size and the Y axis represents the throughput. It indicates the changes that if our data size changes then the throughputs are also changed.