

**MAC type: 802.11**

IEEE 802.11 is part of the IEEE 802 set of local area network (LAN) protocols, and specifies the set of media access control (MAC) and physical layer (PHY) protocols for implementing wireless local area network (WLAN) Wi-Fi computer communication in various frequencies, including but not limited to 2.4 GHz, 5 GHz, 6 GHz, and 60 GHz frequency bands.

**Routing protocol: AODV**

AODV (Ad-hoc On-demand Distance Vector)[\[7\]](#) is a loop-free routing protocol for ad-hoc networks. It is designed to be self-starting in an environment of mobile nodes, withstanding a variety of network behaviors such as node mobility, link failures and packet losses. At each node, AODV maintains a routing table. The routing table entry for a destination contains three essential fields: a next hop node, a sequence number and a hop count. All packets destined to the destination are sent to the next hop node. The sequence number acts as a form of time-stamping, and is a measure of the freshness of a route. The hop count represents the current distance to the destination node

**Agent Type: TCP Reno**

TCP/Reno objects are a subclass of TCP objects that implement the Reno TCP transport protocol

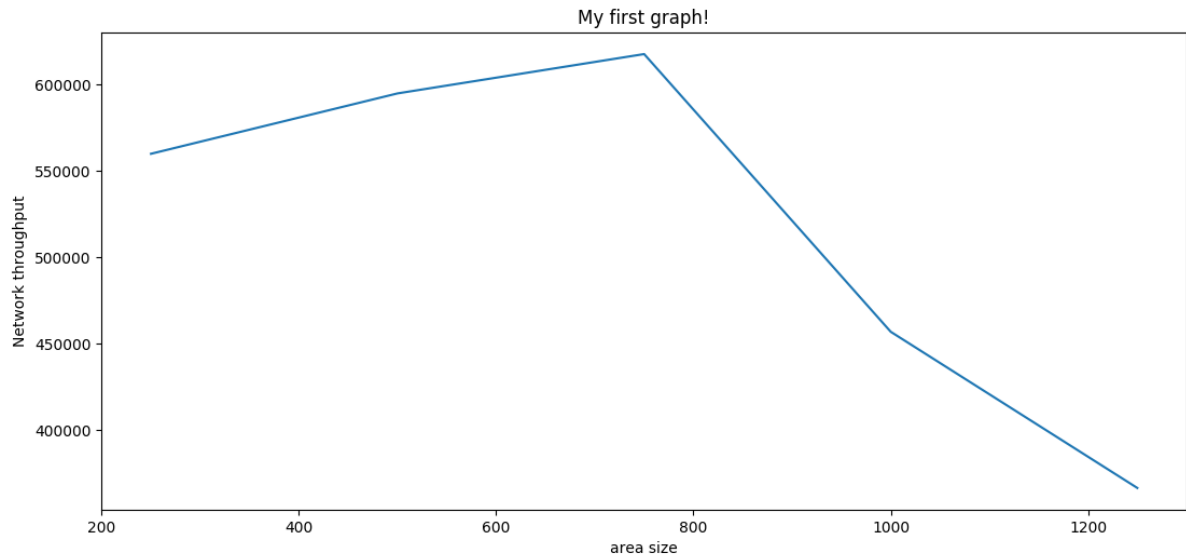
**Application: FTP**

FTP (File Transfer Protocol) is a standard internet protocol used, as the name suggests, to transfer files between computers. FTP software uses a client server model so it requires two parts, an FTP client and an FTP server. Popular applications for FTP are to upload or download files for archival or the sharing of files too large for email.

## Graph:

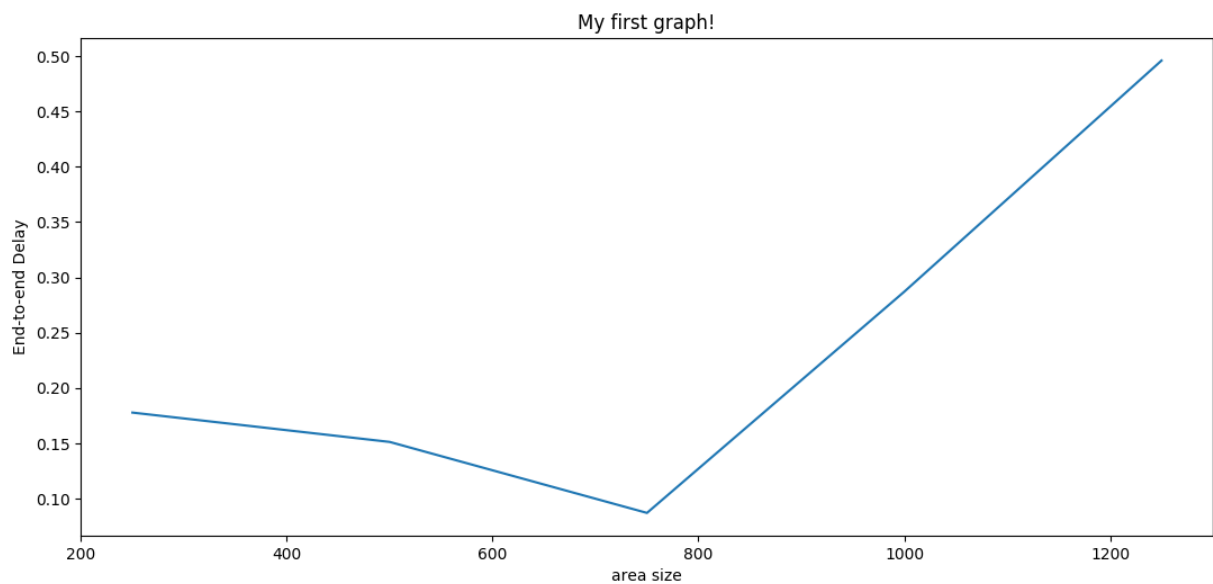
Area size vs Network throughput:

Initially network throughput was increasing with area size, later it was decreasing with area size.



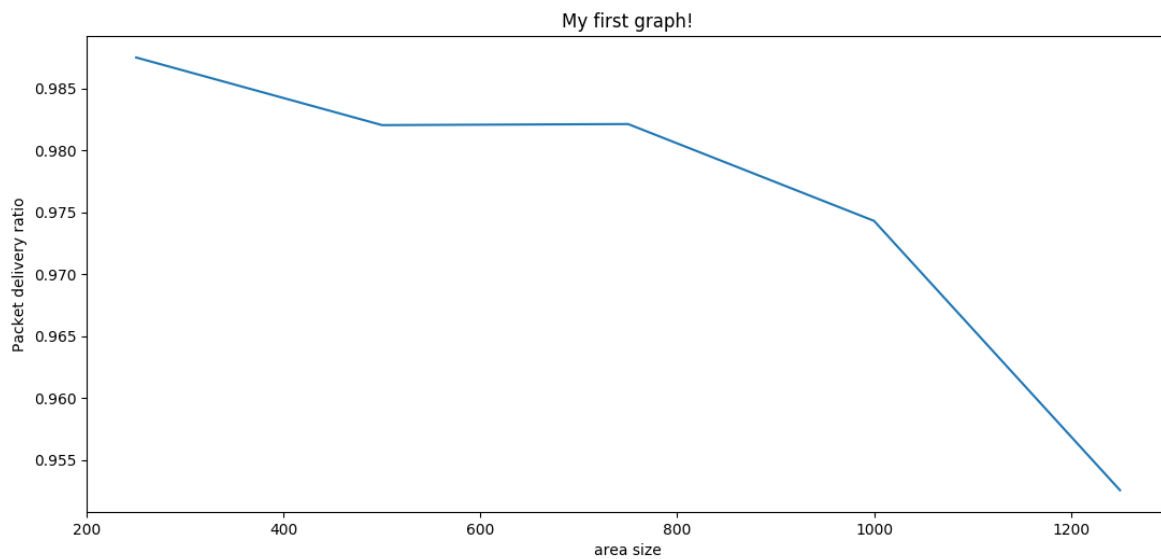
Area size vs End to end delay:

Initially end to end delay was decreasing with area size, later it was increasing with area size.



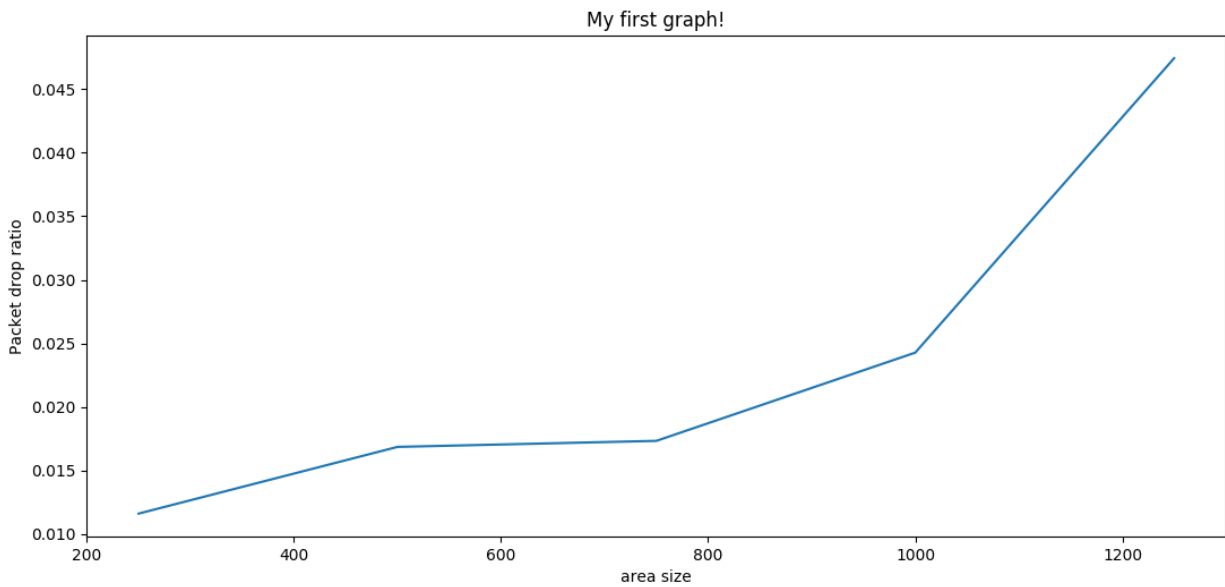
Area size vs Packet delivery ratio:

Packet delivery ratio decreases with area size.



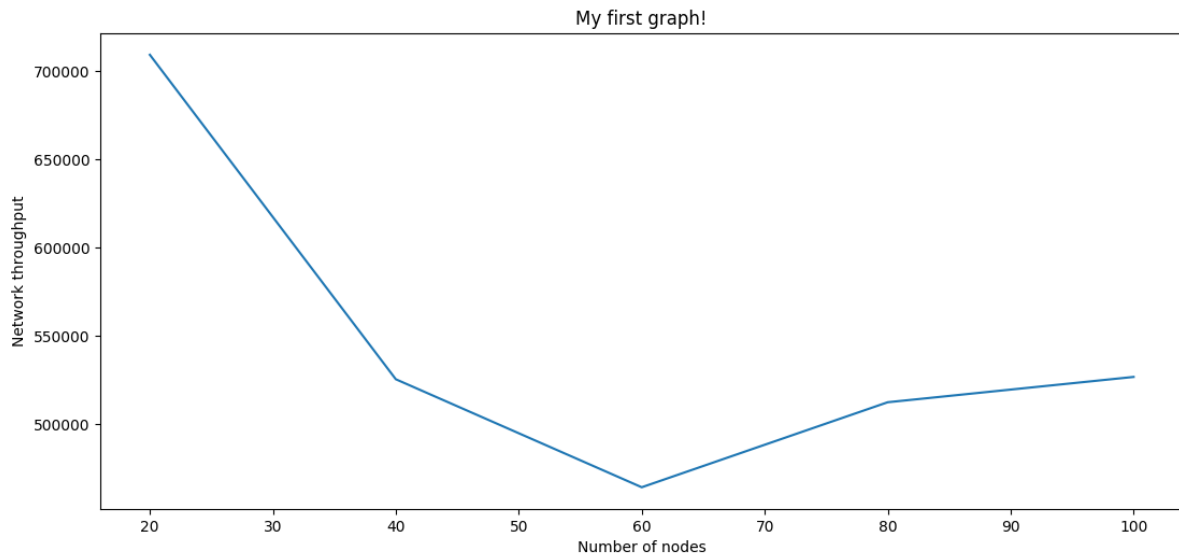
Area size vs Packet drop:

Packet drop increases with area size.



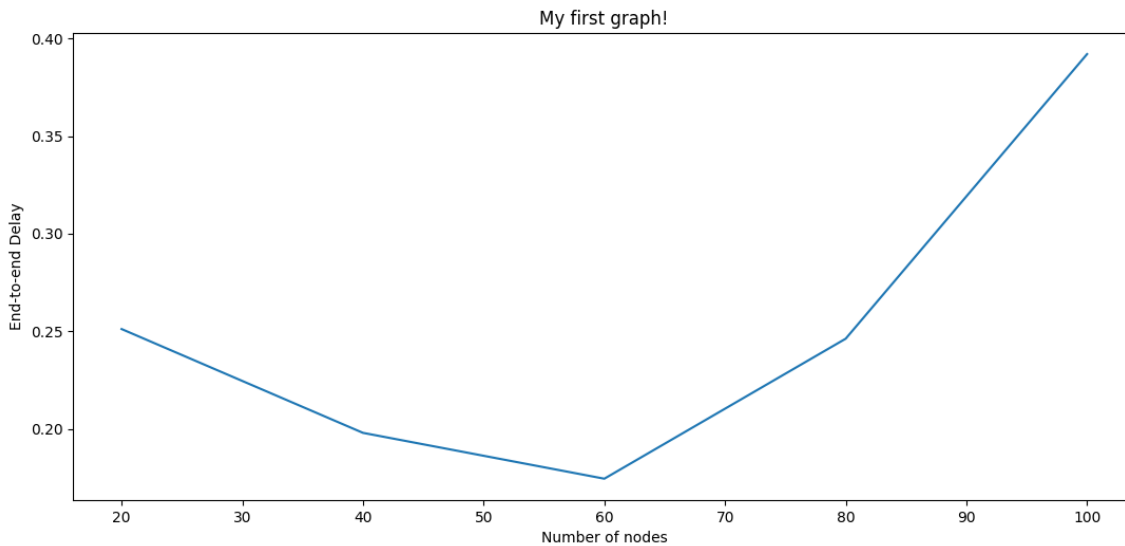
Number of nodes vs network throughput:

Initially network throughput decreases with number of nodes, then increases with number of nodes.

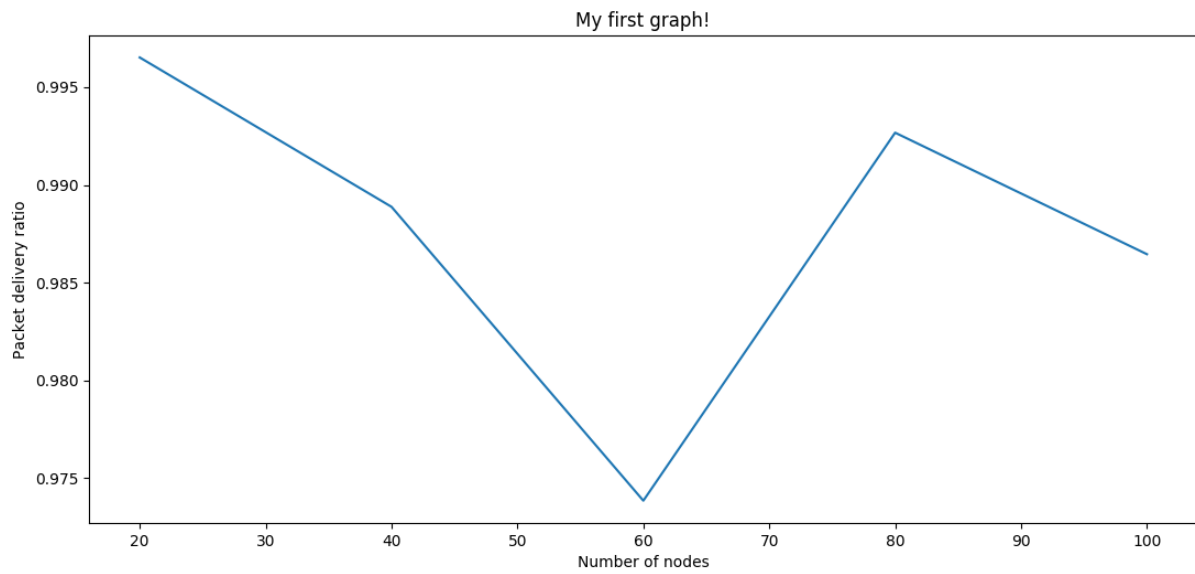


Number of nodes vs end to end delay:

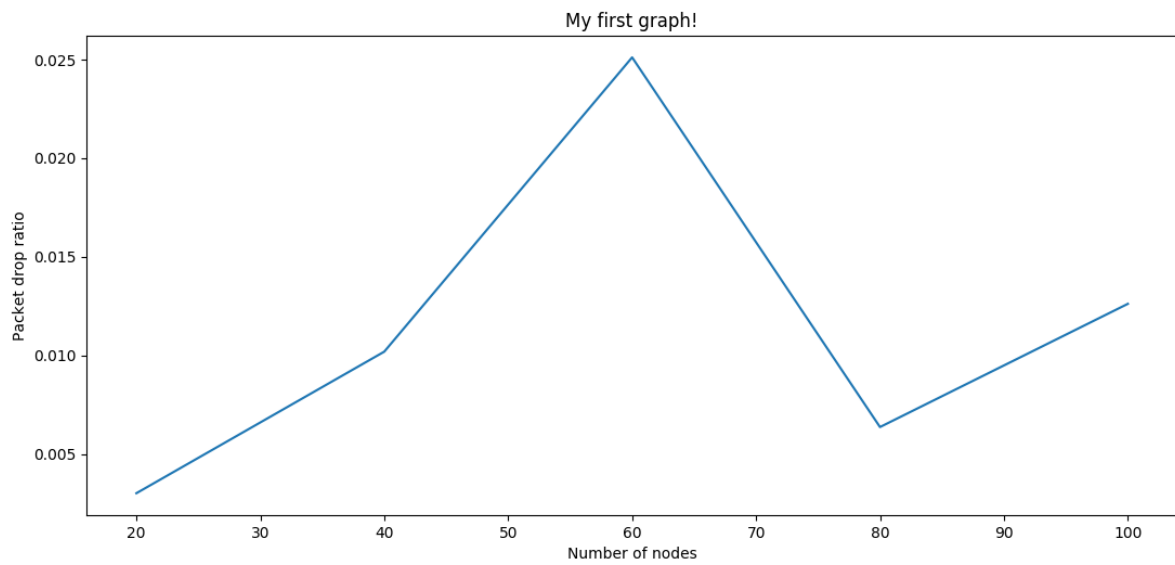
End to end delay initially decreases with number of nodes then increases with number of nodes.



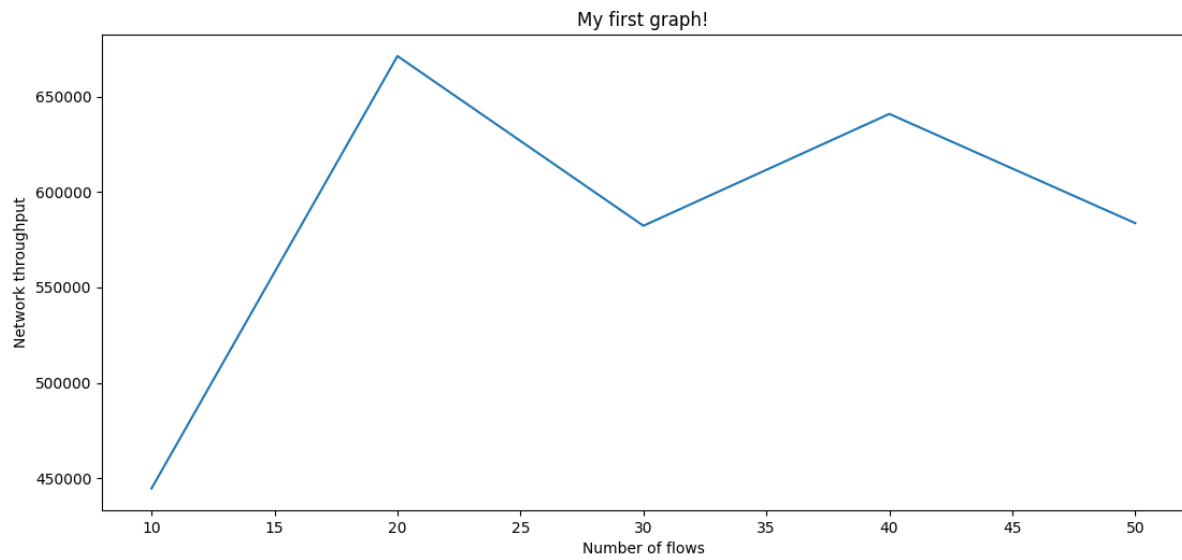
Number of nodes vs packet delivery ratio:



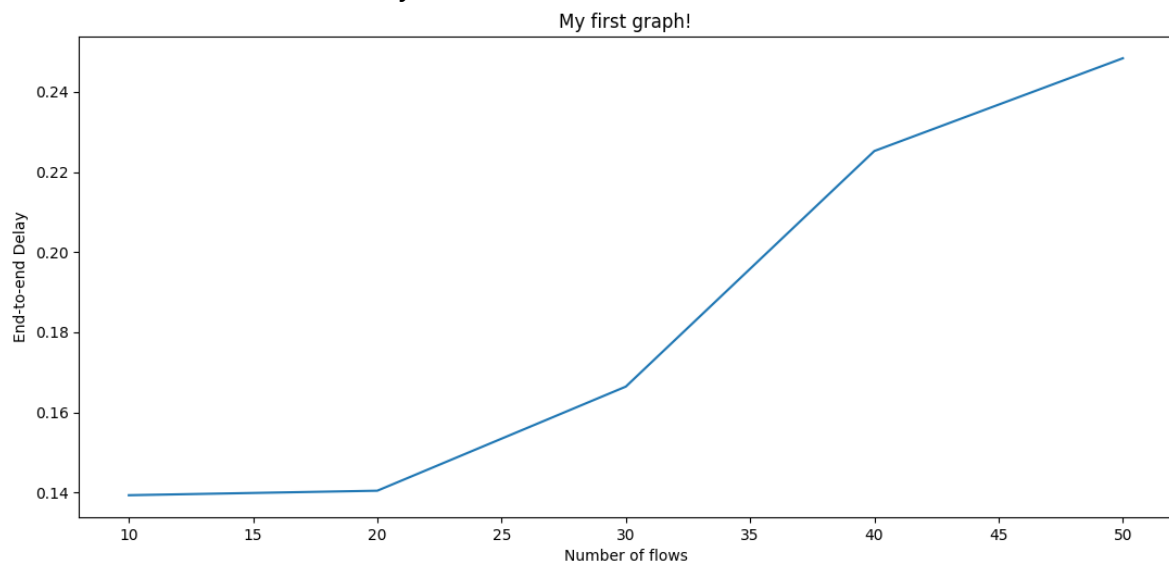
Number of nodes vs Packet drop ratio:



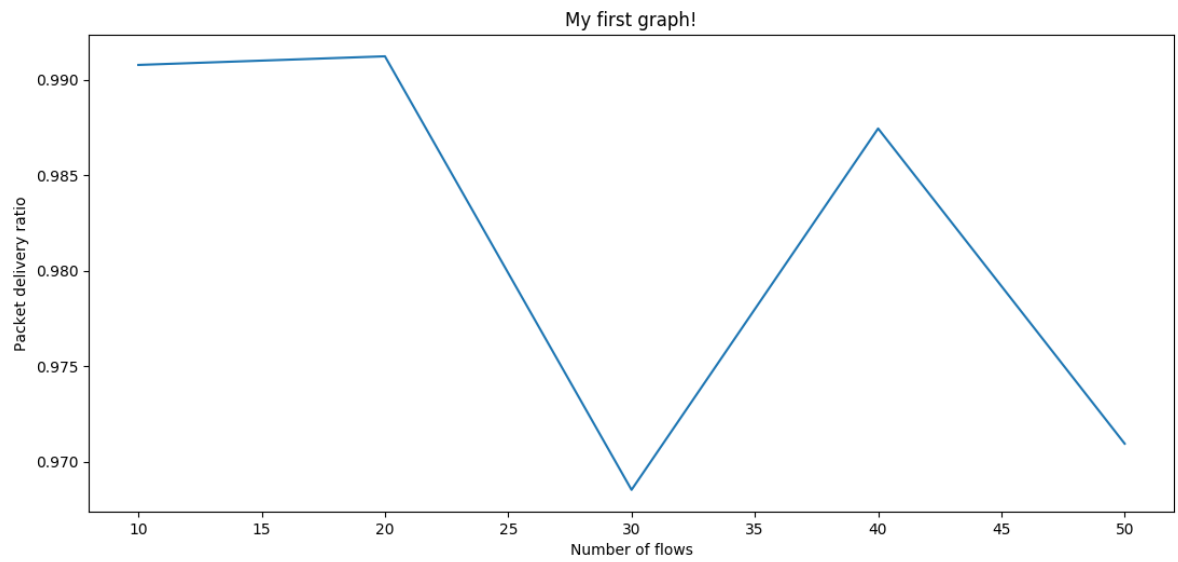
Number of flow vs network throughput:



Number of flow vs End to end delay:



Number of flow vs packet delivery ratio:



Number of flow vs packet drop ratio:

