To run the discovering-topology.py traceroute program:

1. Open the terminal

2. Change to the directory where discovering-topology.py is saved (cd ~/…/)

3. Install scapy if not already installed (pip3 install scapy)

4. Run sudo python3 -E discovering-topology.py

To run the sub.py traceroute program:

1. Open the terminal

2. Change to the directory where sub.py is saved (note: ensure sub.py and topology-tracing.py are saved in the same directory)

3. Install necessary dependencies (scapy, etc) if not already installed

4. Edit the ip_ranges list to contain all target ip addresses you would like to traceroute

5. Run sudo python3 sub.py

To run the topology-tracing.py traceroute program:

1. Open the terminal

2. Change to the directory where sub.py is saved (note: ensure sub.py and topology-tracing.py are saved in the same directory)

3. Install necessary dependencies (scapy, etc) if not already installed

4. Edit line 85 - public_ip_range = generate_ips(start_ip, end_ip, skip=64) - and change the skip value as needed (or set skip=1 for public ips)

5. Run sudo python3 topology-tracing.py *start-ip end-ip*