Nicholas LaJoie, ECE 331, HW 12

```
// Author: Nicholas LaJoie
// ECE 331 - Homework 12
// Date: April 27, 2017
```

1. Router Elessar and Host Legalos - Routing Tables

Elessar Table:

Destination	Gateway	GenMask	Iface
0.0.0.0	76.99.33.1	0.0.0.0	ETH1
18.4.0.0	0.0.0.0	255.252.0.0	ETH0
76.99.0.0	0.0.0.0	255.255.192.0	ETH1
141.33.33.0	0.0.0.0	255.255.255.224	ETH2

Legalos Table:

Destination	Gateway	GenMask	Iface
0.0.0.0	141.33.33.40	0.0.0.0	ETH0
141.33.33.0	0.0.0.0	255.255.255.224	ETH0

2. Frodo -> Legolas

Name	MAC Source	MAC Destination	IP Source	IP Destination
Frodo	00:00:00:00:00:11	55:00:00:00:00:00	18.4.8.9	141.33.33.6
Legolas	66:00:00:00:00:00	00:00:00:00:00:22	18.4.8.9	141.33.33.6

3. Legolas -> Gandalf

Name	MAC Source	MAC Destination	IP Source	IP Destination
Legolas	00:00:00:00:00:22	66:00:00:00:00:00	141.33.33.6	76.99.33.1
Gandalf	77:00:00:00:00:00	FF:00:00:00:00:00	141.33.33.6	76.99.33.1

4. NFS Server

Source: https://www.htpcguides.com/configure-nfs-server-and-nfs-client-raspberry-pi/

a. Teammate: Jack Britton

b. NFS server setup commands:

```
sudo apt-get install nfs-common nfs-server -y
sudo mkdir /mnt/nfsserver
sudo chmod -R 777 /mnt/nfsserver
sudo exportfs
sudo update-rc.d rpcbind enable
sudo service rpcbind restart
sudo service nfs-kernel-server restart
```

c. Exported directory: /mnt/nfsserver

d. Filenames/Configurations for NFS server

```
sudo vi /etc/exports
    # My own
    /mnt/nfsserver 141.114.203.218 *(rw,sync)
    # Jack
    /mnt/nfs 141.114.200.79 *(rw,sync)
sudo exportfs
sudo vi /etc/fstab
    141.114.200.79:/srv/nfs         /mnt/nfs   nfs    rw      0       0
```

e. Commands to mount exported filesystem

```
        sudo mount 141.114.203.218:/mnt/nfsserver /mnt/nfs

    f. Filenames/Configurations for NFS client
        sudo apt-get install nfs-common -y
        sudo mkdir -p /mnt/nfs
        sudo chown -R pi:pi /mnt/nfs
```

5. Python plot script

```
#!/usr/bin/python3

# Author: Nicholas LaJoie
# Source: https://matplotlib.org/users/pyplot_tutorial.html

import numpy as np
import matplotlib.pyplot as plt

# Plot sin(x)/x for -10 to 10, x = angle (radians), y = voltage

def f(x):
    return np.sin(x)/x

x1 = np.arange(-10.0, 10.0, 0.1)

# Plot with proper labels

plt.figure(1)
plt.grid()
plt.title('ECE 331, HW12, Problem 5')
plt.xlabel('Angle, Radians')
plt.ylabel('Voltage, V')
plt.plot(x1, f(x1))
plt.show()
```