

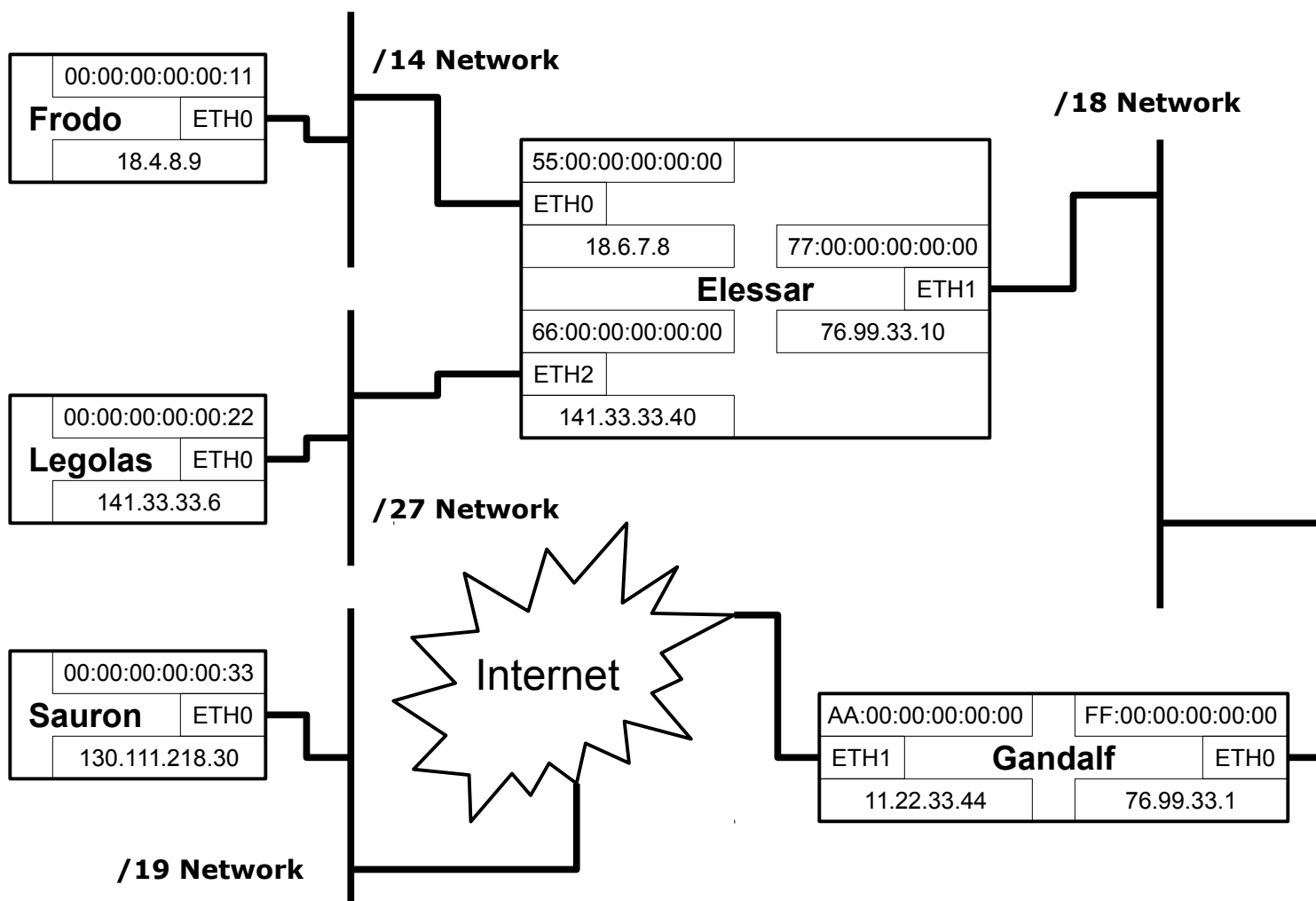
ECE 331

Homework 12

See course web site for due date

Place your typed homework answers in vim. Print single sided with your name using a **mono space font**. No need to restate questions. Fully investigating questions is required for a higher grade. Please use the kernel coding style for all code. Please use your RPi for developing answers. Although code should be written and run on a RPi, it should run on ANY POSIX compliant OS. As always, all code shall be comment, conform to the Linux Kernel Coding Style, and error conditions shall be checked and appropriately handled.

1. Build a routing table for router “Elessar” and host “Legolas”. Give the tables.



2. Show how the source and destination MAC and IP addresses change as an Ethernet frame is sent from host “Frodo” to host “Legolas”.
3. Show how the source and destination MAC and IP addresses change as an Ethernet frame is sent from host “Legolas” to host “Gandalf”.
4. Working with a teammate, setup an NFS server, securely export a filesystem and then mount it on your

RPi.

- a) Give the name of your teammate.
- b) Give all successful commands to set up an NFS server.
- c) Give the name of the directory being exported
- d) Give the filename(s) and configuration you added or modified on the NFS server.
- e) Give all successful commands to mount the exported file system on your RPi.
- f) Give the filename(s) and configuration you added or modified on the NFS client.

For this question you and your teammate will need to investigate NFS configuration.

5. Write a python script that plots $y(x) = \frac{\sin(x)}{x}$, for x values from -10 to 10. x is the angle in radians and y is voltage. Use numpy for your calculations and matplotlib.pyplot for the actual plot. Label the axis. Labels need to include units.