CSCI 251 Quiz 2
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0. Grep and find are both unix tools for searching something. The main difference is grep is used to find patterns WITHIN a file (contents) , and find is used to locate files and directories with a certain name.

1. A softlink (or symbolic link) just points to the original file, while a hard link is an exact copy of a file that directly refers to the inode of a file.

2. We can run a daemon in level 5 by modifying the runlevel n in rcn.d. (Not too sure on this one)

3. For a full backup, we need **B** (has level 0 data), **C** (has level 1 data) , **E** (has level 2 data) , and **F** (has level 3 data)

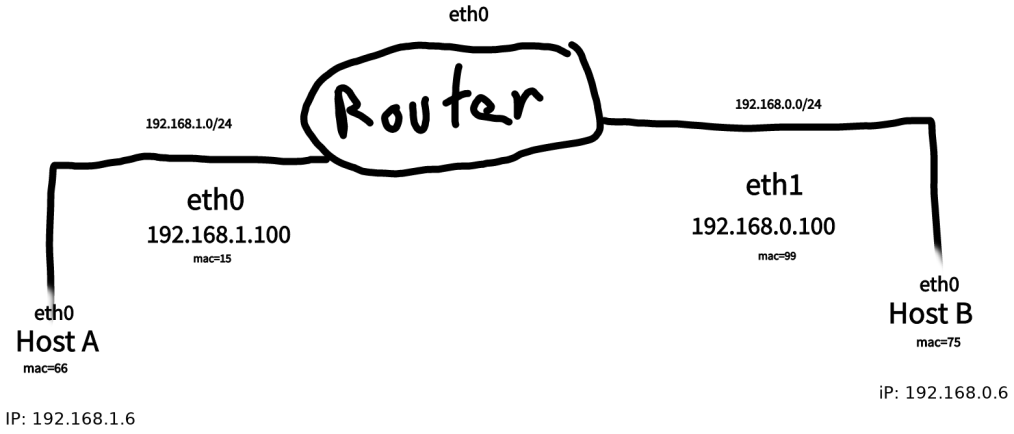
4. network (Directly stated in lecture 13. I wrote it down too on my notes)

5.
Packet switching is a method of sending data from one computer to another in a network. This method consists of packets travelling from router to router, being gradually sent to its destination. Packet switching does not require a holistic view of the entire network. This is in contrast to circuit switching where a path from source to destination must be reserved beforehand.

6.
NAT is the process devised as a workaround to ipv4's 4-billion ip limit. It's a mechanism to translate private IP addresses into public addresses before traffic goes out into the internet proper

It works mainly by reusing addresses within an address space, and in one type of NAT several computers in one LAN can use the same public IP but with different ports.

7.



8.

- First we have to send the packet up to the router.
- Host A must put out an ARP request that contains Host A's src IP (192.168.1.6), Host A's mac (66), and the router's destination IP (192.168.1.100). The destination's Mac address will be a broadcast.
- The router will then reply to Host A with the router's Mac address (15), because A needs the routers Mac address.
- The router then sends out a request for Host B's mac address, to which then Host B will send back in a reply.
- When the message finally arrives to Host B (192.168.0.6) , the ARP packet will contain Host A's source IP (192.168.1.6), but the Mac Address is that of the router's (99)

  Source: Lecture 15

9. Forward - to give explicit authorization to packets to access systems behind a firewall.

The first command flushes out all the iptables rules.
The second command adds a rule to accept any new packets being forwarded from eth1.
The third command adds a rule to drop any new packets being forwarded from eth0.
The fourth command adds a rule to accept any already established incoming packets.

(src: man iptables)