**CCGC 5002 – Software Defined Network - Lab 1 Due Week 2, Saturday by 11:30pm**

**Upload solutions in a single word/pdf document in the Lab 1 folder located under Assignments Tab**

Part 1 – answer the following questions thoroughly.

1. What is the difference between TCP and UDP?
2. What is the difference between a hub, switch and a router?
3. What is a layer 3 switch?
4. What is the difference between ip4 and ipv6?
5. What is the purpose of subnet mask in ipv4?
6. What is the prefix in ipv4 addressing? Explain with examples?
7. What is the purpose of default gateway, DNS, and DHCP?
8. What is a MAC address and a port address?
9. What is the difference between LAN and WAN?
10. What are some typical LAN topologies?
11. What is a loopback address?
12. What is the purpose of icmp and arp protocol?

Part 2

Run JSlinux terminal in your browser for a quick access to linux terminal to practice the following commands.

pwd

ls

mkdir test

cd test

netstat -r

ifconfig

route

hostname

ping 127.0.0.1

Take clear screenshots of your run of the above commands. You must be able to answer the purpose of the above commands. Submit part 1 and part 2 answers in a single document.

Part 3

Research and learn about iperf, curl and dig commands for upcoming labs