

CMAC 3990 –Systems Administration and Operations

Fall 2025 – Section 200

Assignment 9 – 50 points

Use the following long file listing to answer the questions below (3 points each).

```
drwx--x--x. 11 jason jason 4.0K Feb 13 13:58 .
drwxr-xr-x. 14 root root 4.0K Aug 24 2015 ..
-rwx----- 1 jason jason 82 Sep 12 2014 attach.sh
-rw-----. 1 jason jason 16K Feb 23 23:09 .bash_history
-rw-r--r--. 1 jason jason 18 Feb 21 2013 .bash_logout
-rw-r--r--. 1 jason jason 176 Feb 21 2013 .bash_profile
-rw-r--r--. 1 jason jason 124 Feb 21 2013 .bashrc
drwx----- 3 jason jason 4.0K May 28 2013 .config
drwx-----. 4 jason jason 4.0K Dec 5 12:28 .irssi
-rw----- 1 jason jason 59 Jul 5 2014 .lessht
drwxr-xr-x 3 jason jason 4.0K Feb 13 13:58 .libvirt
drwx-----. 2 jason jason 4.0K Aug 20 2014 miau
drwx-----. 7 jason jason 4.0K Feb 3 18:57 misc
-rw----- 1 jason jason 13 Nov 18 2014 notes.txt
-rw-r--r-- 1 jason jason 24 May 26 2013 .oidentd.conf
drwx-----. 4 jason jason 4.0K May 24 2013 old
drwx----- 2 jason jason 4.0K Feb 20 20:15 .ssh
-rwx----- 1 jason jason 115 Oct 22 2014 test.sh
drwx-----. 2 jason jason 4.0K Feb 13 15:26 tmp
-rw----- 1 jason jason 51 Jun 4 2013 .tmux.conf
drwx-----. 7 jason jason 4.0K Sep 11 19:35 wraith
```

1. Which files are executable?
2. What are the directories?
3. What files and folders are hidden?
4. What files can be read by everyone?
5. What command (and parameters) did I most likely use to generate the file listing above?

Answer the following questions (2 points each):

6. How many root name servers currently exist? List one.
7. Who is the Technical Contact for the Edinboro.edu domain? How did you arrive at that answer?
8. Explain the function of a recursive DNS server.
9. Explain the purpose of a CNAME record, and give an example of where one might be used.
10. What is an advantage of the classless IP addressing system?
11. What is a DNS Glue record?
12. The top most servers in the DNS hierarchy are called what?
13. What does TLD stand for? Give an example of two TLD's.

Answer the following questions:

14. Find the following DNS values for the **ultrastuff.net** domain (5 points):

Serial number:

NS Servers (hostnames and IP):

MX Server:

Registry Expiration Date:

15. Given the following **classless** IP addresses, determine the IP address range (4 points).

IP Address	Starting IP	Ending IP	Subnet Mask
192.168.0.0/24			
10.11.1.0/16			
147.64.243.0/23			
8.8.8.8/20			

16. Given the following **classful** IP addresses, determine the IP class, network ID, and host ID (5 points).

IP Address	IP Class	Network ID	Host ID
192.168.0.1			
252.65.32.77			
24.93.201.102			
147.64.32.6			
8.8.8.8			

17. List one of each of the following DNS records for google.com (5 points).

Record Type	Record
A	
AAAA	
NS	
MX	
SOA	

Save your answers to a file named Lastname_Firstname_HW9 and submit your file(s) in D2L to the Dropbox folder HW9.