CS 409
Assignment 4
Done By: February 20

1. What does the following script do?

```
1. #! /bin/bash
2. [ $# -lt 1 ] && set -- .

3. find "$@" -type d -depth -print |
4.    while read dir
    do
5.     [ ‘ls "$dir" | wc -l‘ -lt 1 ] || continue
6.     echo >&2 "$0: removing empty directory: $dir"
7.     rmdir "$dir" || exit $?
    done
8. exit 0
```

   (a) Run bash.

   (b) If the number of arguments is less than 1, set the the argument list to empty.

   (c) find in the argument list, files of type directory, and in directory order. Pipe the results to

   (d) Read the files in each directory.

   (e) If the directory has more than zero files, repeat the loop.

   (f) Tell the user what you are doing.

   (g) Remove the empty directory

   (h) All done.

2. What does the following script do?

```
1. #!/bin/bash
2. STARTDIR="/"

3. echo "Script started at $(date +'%T on %D') \n
Searching through the following directories:\n"

4. set -- $STARTDIR
```

```
5. a=1
6. while (($# >= $a))
do
7.   echo $’\t’ $1 # display the directory pathname being searched
8.   shift
done

# end of display output for the user.

9. find ${STARTDIR} -name core -type f -exec file {} \; |
10.    awk -F: ’/core file/ {print $1}’ | xargs -t rm

# now tell the user that the script has completed
11. echo "Script completed at $(date +’%T on %D’) \n"
```

(a) Run bash.

(b) Set STARTDIR.

(c) Output the date.

(d) Set the argument list to STARTDIR, which is ”/”.

(e) Set a.

(f) While the argument list is not empty.

(g) Echo the directory name.

(h) shift the argument list 1 position.

(i) In the directory find all files named ”core” and then execute the *file* command. Pipe the output to:

(j) Check the file type and if a core file, send the file name to xargs which execute rm on the file.

(k) We be done.

3. Create a shell script that will output the network configuration information for your system including the IP address, DNS server, domain name and gateway address. This information is in several files or can be gotten from some commands.

echo ”Hostname =” ‘hostname‘
echo ”IP address =” ‘hostname -i‘
echo ”Domain name =” ‘dnsdomainname‘
echo ”Gateway =” ‘netstat -r — grep default‘
ns=‘cat /etc/resolv.conf — grep nameserver — cut -d” ” -f2‘
echo ”Name Servers”
for n in ns
do
$echo$” ”n
done
exit 0

4. Create a shell script that will execute a command in every home directory. For example, you give it the command ”chmod 700 .bashrc” and it executes it in every home directory.

```
#~ /bin/bash
# Script to execute a command in every home directory.

if [ $# -lt 1 ]
then
   echo "Syntax: exec_home command";
   exit 0;
fi

cmd=$1
read -p "Executing $1: Y/N?" ANS
[ $ANS = "N" -o $ANS = "n" ] && exit 0

for d in /home/*
do
   echo "In $d"
   echo -e ‘$cmd $d‘\
   done
```

5. Create a shell script that will save the checksum of every file in /usr/bin and /usr/sbin. The cksum command will give you a 32-bit CRC checksum for a file as well as the number of bytes. You would normally dump the output from this script to a file so that you could compare results at a later time, so the output should include the filename and the checksum.

```
#~ /bin/bash
# Script to get the CRC checksums of all files in
# /usr/bin and /usr/sbin
```

```
file=/var/cksum/cksum.‘date +%d%m%Y‘
echo "Checksum list" | cat > $file

for f in /usr/bin/* /usr/sbin/*
do
   echo $f
   ‘cksum $f >> $file‘
done
```