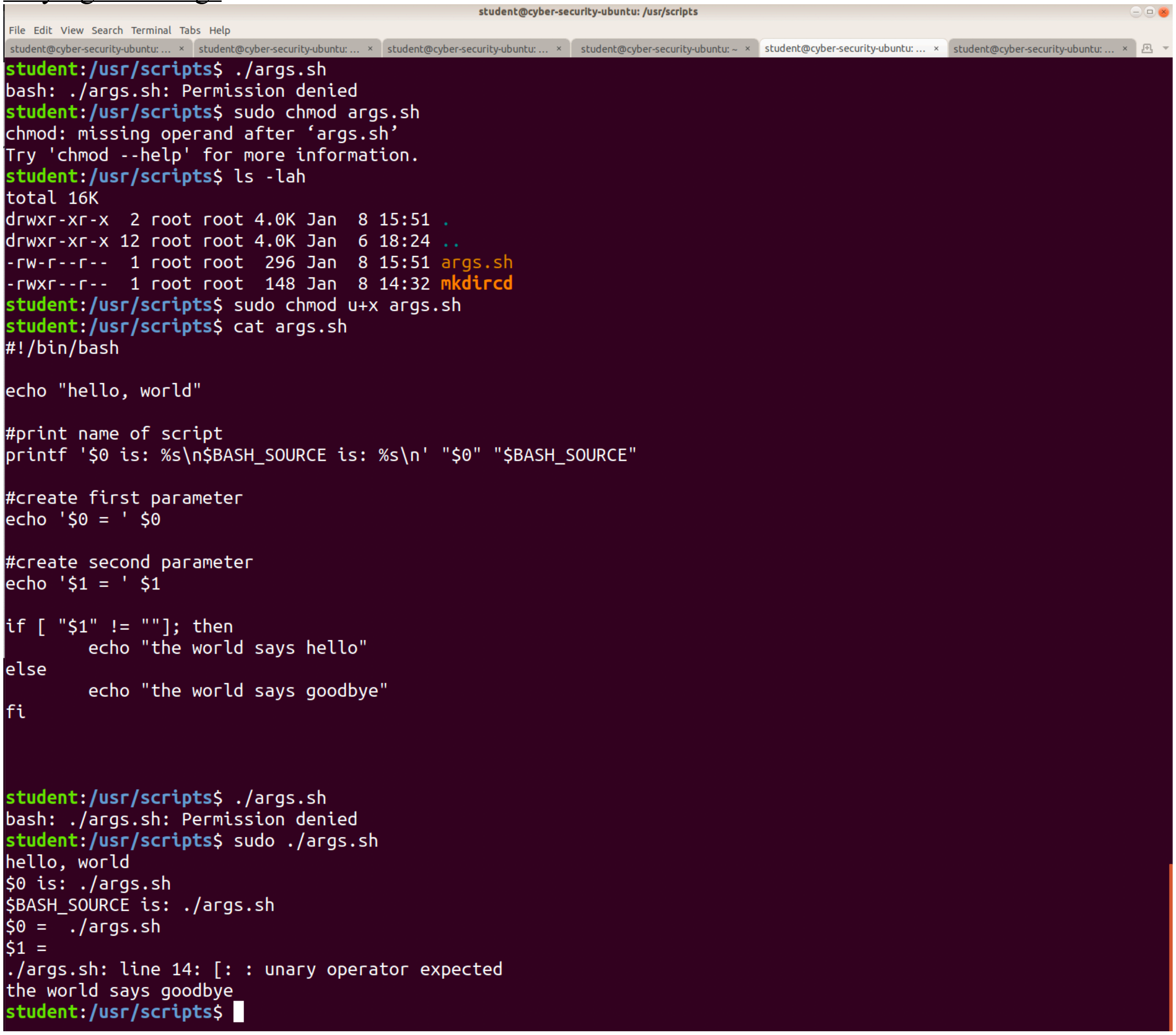
Unit 9 Assignment – Linux SysAdmin 2

Playing with Args

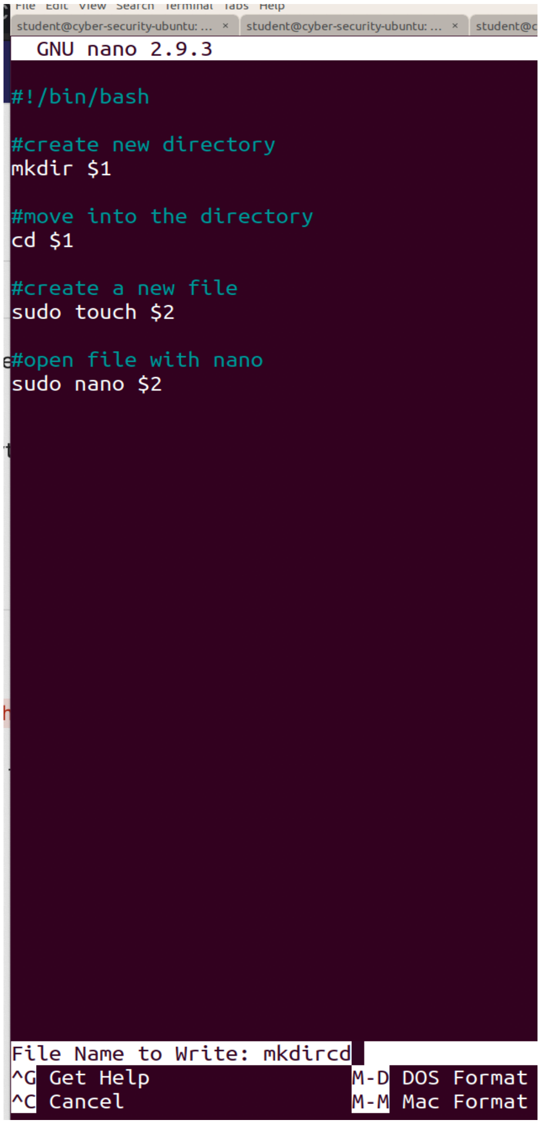

student@cyber-security-ubuntu: /usr/scripts
File Edit View Search Terminal Tabs Help
student@cyber-security-ubuntu: ...
student@cyber-security-ubuntu: ...
student@cyber-security-ubuntu: ...
student@cyber-security-ubuntu: ~
student@cyber-security-ubuntu: ...
student@cyber-security-ubuntu: ...

```
student:/usr/scripts$ ./args.sh
bash: ./args.sh: Permission denied
student:/usr/scripts$ sudo chmod args.sh
chmod: missing operand after ‘args.sh’
Try 'chmod --help' for more information.
student:/usr/scripts$ ls -lah
total 16K
drwxr-xr-x  2 root root 4.0K Jan  8 15:51 .
drwxr-xr-x 12 root root 4.0K Jan  6 18:24 ..
-rw-r--r--  1 root root  296 Jan  8 15:51 args.sh
-rwxr--r--  1 root root  148 Jan  8 14:32 mkdircd
student:/usr/scripts$ sudo chmod u+x args.sh
student:/usr/scripts$ cat args.sh
#!/bin/bash

echo "hello, world"

#print name of script
printf '$0 is: %s\n$BASH_SOURCE is: %s\n' "$0" "$BASH_SOURCE"

#create first parameter
echo '$0 = ' $0

#create second parameter
echo '$1 = ' $1

if [ "$1" != ""]; then
        echo "the world says hello"
else
        echo "the world says goodbye"
fi



student:/usr/scripts$ ./args.sh
bash: ./args.sh: Permission denied
student:/usr/scripts$ sudo ./args.sh
hello, world
$0 is: ./args.sh
$BASH_SOURCE is: ./args.sh
$0 =  ./args.sh
$1 =
./args.sh: line 14: [: : unary operator expected
the world says goodbye
student:/usr/scripts$ 
```

The first assignment was completed after part 2. Here an executable file was created to print a series a script, provide information about the bash source as well as the values of each parameter. To check to see if the arguments worked, conditions were set to “$1”

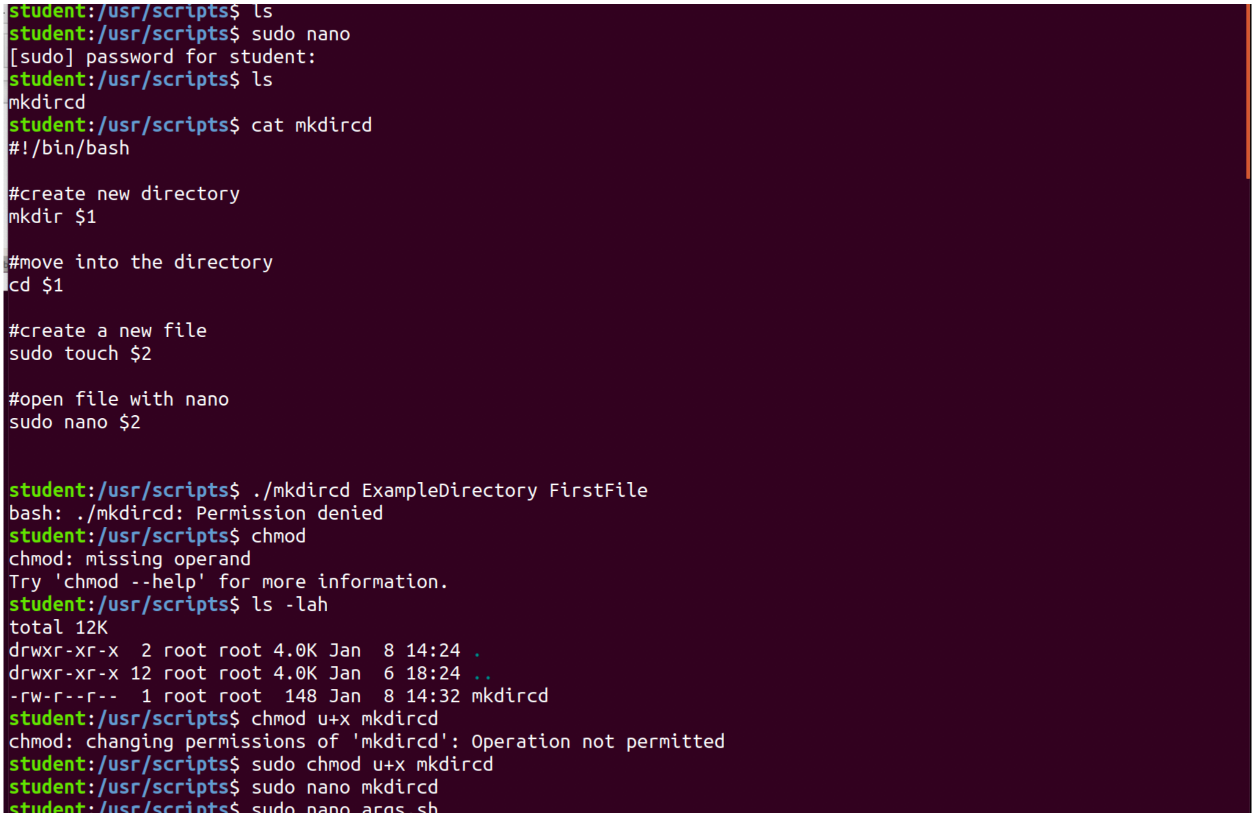
Mkdircd.sh solution

In the second part of the assignment, positional parameters and the chmod command were used to give executable permissions the file. The nano editor outlines a series of commands with respect to their positional parameters. The directory represents ‘$1’ and the file represents ‘$2’.


File Edit View Search Terminal Tabs Help
student@cyber-security-ubuntu: ...
student@cyber-security-ubuntu: ...
student@c

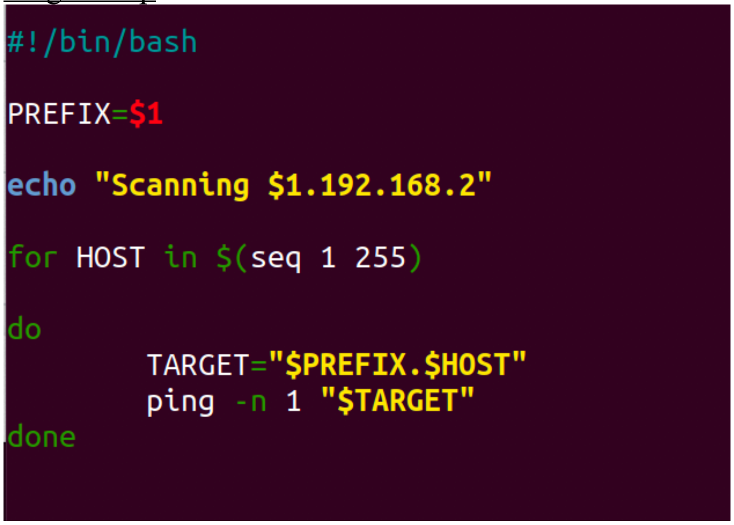
```
  GNU nano 2.9.3

#!/bin/bash

#create new directory
mkdir $1

#move into the directory
cd $1

#create a new file
sudo touch $2

#open file with nano
sudo nano $2
```

```
File Name to Write: mkdircd
^G Get Help                            M-D DOS Format
^C Cancel                              M-M Mac Format
```

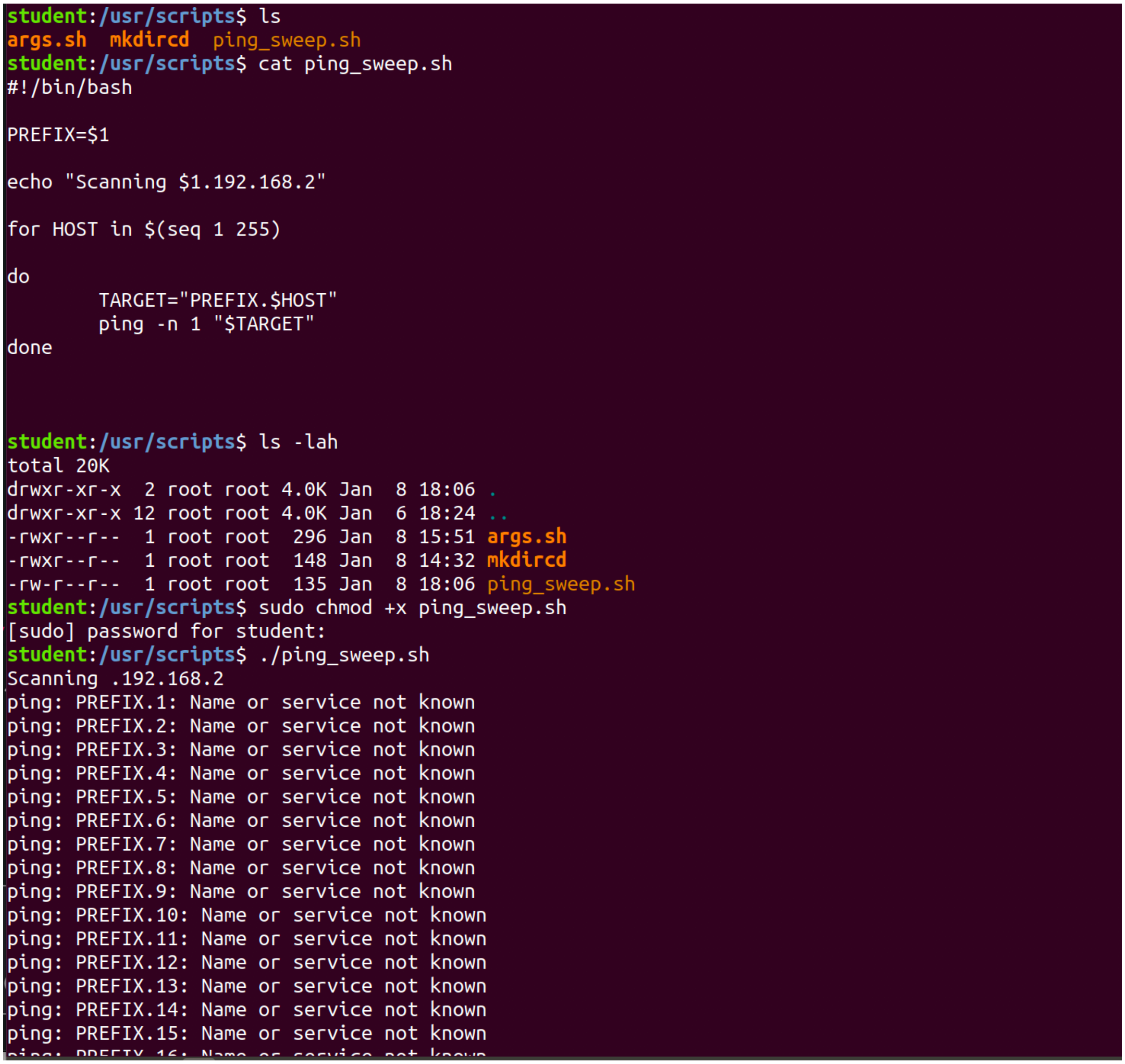


```
student:/usr/scripts$ ls
student:/usr/scripts$ sudo nano
[sudo] password for student:
student:/usr/scripts$ ls
mkdircd
student:/usr/scripts$ cat mkdircd
#!/bin/bash

#create new directory
mkdir $1

#move into the directory
cd $1

#create a new file
sudo touch $2

#open file with nano
sudo nano $2


student:/usr/scripts$ ./mkdircd ExampleDirectory FirstFile
bash: ./mkdircd: Permission denied
student:/usr/scripts$ chmod
chmod: missing operand
Try 'chmod --help' for more information.
student:/usr/scripts$ ls -lah
total 12K
drwxr-xr-x  2 root root 4.0K Jan  8 14:24 .
drwxr-xr-x 12 root root 4.0K Jan  6 18:24 ..
-rw-r--r--  1 root root  148 Jan  8 14:32 mkdircd
student:/usr/scripts$ chmod u+x mkdircd
chmod: changing permissions of 'mkdircd': Operation not permitted
student:/usr/scripts$ sudo chmod u+x mkdircd
student:/usr/scripts$ sudo nano mkdircd
student:/usr/scripts$ sudo nano args.sh
```

Ping Sweep



```
#!/bin/bash

PREFIX=$1

echo "Scanning $1.192.168.2"

for HOST in $(seq 1 255)

do
        TARGET="$PREFIX.$HOST"
        ping -n 1 "$TARGET"
done
```



```
student:/usr/scripts$ ls
args.sh  mkdircd  ping_sweep.sh
student:/usr/scripts$ cat ping_sweep.sh
#!/bin/bash

PREFIX=$1

echo "Scanning $1.192.168.2"

for HOST in $(seq 1 255)

do
        TARGET="PREFIX.$HOST"
        ping -n 1 "$TARGET"
done



student:/usr/scripts$ ls -lah
total 20K
drwxr-xr-x  2 root root 4.0K Jan  8 18:06 .
drwxr-xr-x 12 root root 4.0K Jan  6 18:24 ..
-rwxr--r--  1 root root  296 Jan  8 15:51 args.sh
-rwxr--r--  1 root root  148 Jan  8 14:32 mkdircd
-rw-r--r--  1 root root  135 Jan  8 18:06 ping_sweep.sh
student:/usr/scripts$ sudo chmod +x ping_sweep.sh
[sudo] password for student:
student:/usr/scripts$ ./ping_sweep.sh
Scanning .192.168.2
ping: PREFIX.1: Name or service not known
ping: PREFIX.2: Name or service not known
ping: PREFIX.3: Name or service not known
ping: PREFIX.4: Name or service not known
ping: PREFIX.5: Name or service not known
ping: PREFIX.6: Name or service not known
ping: PREFIX.7: Name or service not known
ping: PREFIX.8: Name or service not known
ping: PREFIX.9: Name or service not known
ping: PREFIX.10: Name or service not known
ping: PREFIX.11: Name or service not known
ping: PREFIX.12: Name or service not known
ping: PREFIX.13: Name or service not known
ping: PREFIX.14: Name or service not known
ping: PREFIX.15: Name or service not known
ping: PREFIX.16: Name or service not known
```

Some challenges were faced in the last part of the assignment, when attempting to ping 192.168.1. The output indicates a potential error however this could be resolved by attempting this script in another terminal.