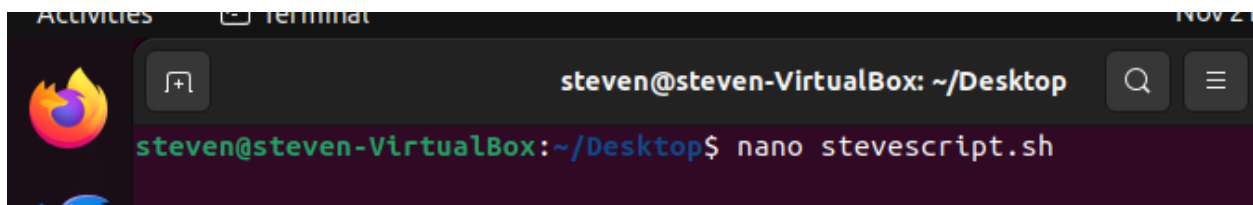


## CYSE 270: Linux System for Cybersecurity Lab 5 – Shell Scripting (Total 100 Points)

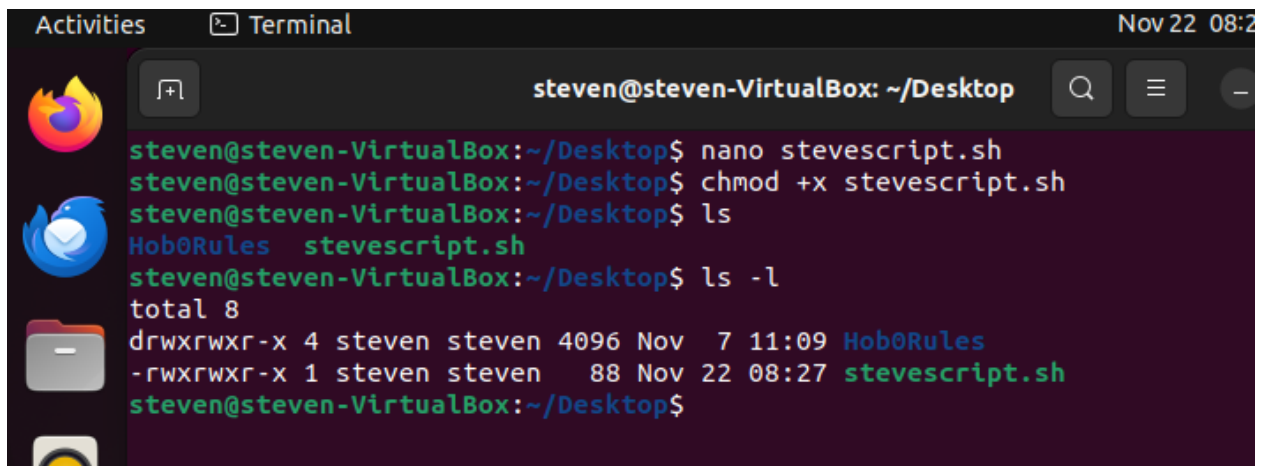
Please Refer to the slides for week-5-Shell scripting and write shell scripts to complete the following tasks. Submit the screenshot for the script and its output, both. NOTE: Please replace the name of the script with the name you used for the script. In the sample screenshot, I have used those names to create my script.

Step-1: Use vi or nano editor to write your script (YourScriptName.sh) for the following tasks.  
stevescript.sh



```
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ nano stevescript.sh
```

Step-2: After saving the script, exit out of the editor and make the script executable by adding execute permission (using chmod +x YourScriptName)



```
steven@steven-VirtualBox:~/Desktop$ nano stevescript.sh
steven@steven-VirtualBox:~/Desktop$ chmod +x stevescript.sh
steven@steven-VirtualBox:~/Desktop$ ls
Hob0Rules  stevescript.sh
steven@steven-VirtualBox:~/Desktop$ ls -l
total 8
drwxrwxr-x 4 steven steven 4096 Nov  7 11:09 Hob0Rules
-rwxrwxr-x 1 steven steven   88 Nov 22 08:27 stevescript.sh
steven@steven-VirtualBox:~/Desktop$
```

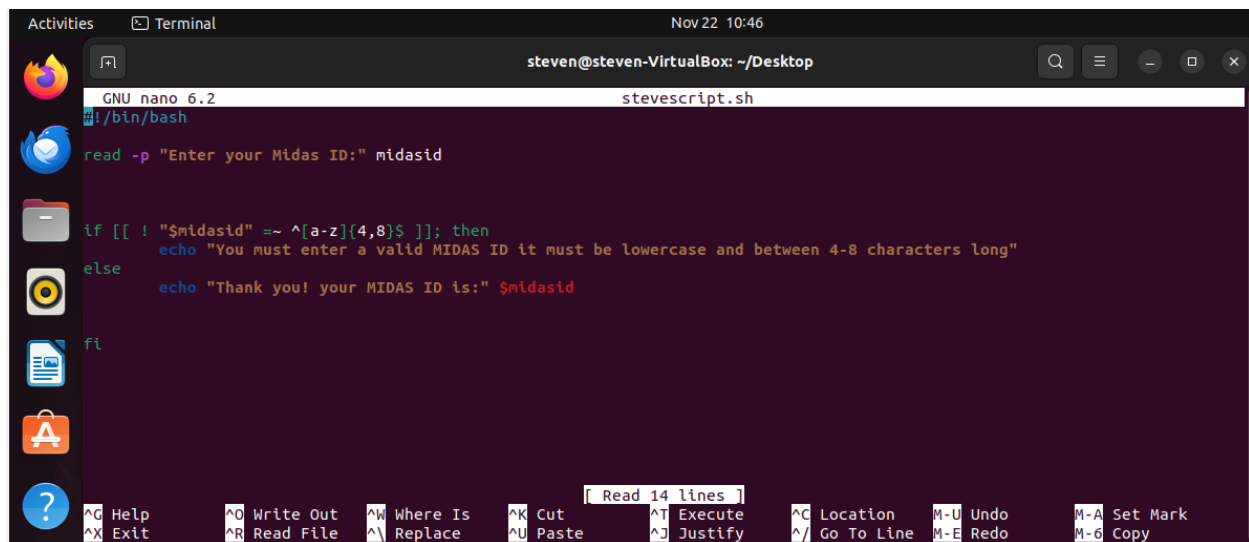
Step-3: Run your script using ./YourScriptName.sh

Task A (Correct script (25 points) + result/output after executing the script (25 points)- Take your MIDAS/name

Write a script like below that reads MIDAS/name and displays the message (for example, the screenshot here), if the following requirements are satisfied:

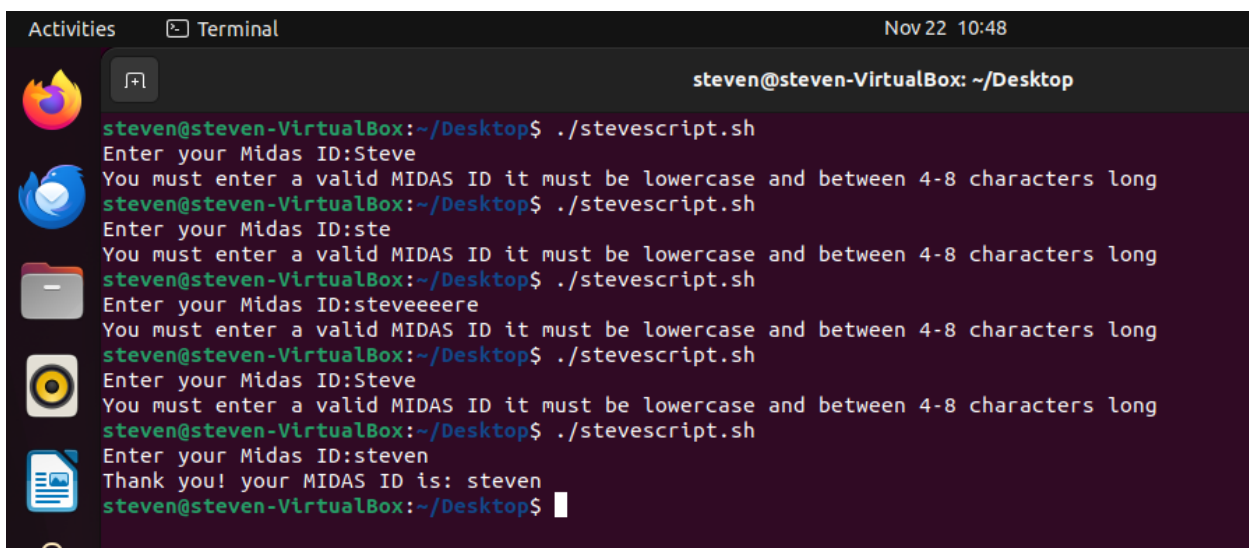
1. Only lower-case letter [a-z] are allowed 2. MIDAS/name must be between 4 to 8 characters in length  
Test your script with the following test input: • Your MIDAS /name with one upper case • A string less than 4 characters • A string longer than 8 characters • Your MIDAS/name in lower case, between 4-8 characters in length

```
Enter your MIDAS ID:
Svats
You must enter a valid MIDAS ID It must be lowercase and betwen 4-8 characters only !
Try again:
sv
You must enter a valid MIDAS ID It must be lowercase and betwen 4-8 characters only !
Try again:
shobhavatsa
You must enter a valid MIDAS ID It must be lowercase and betwen 4-8 characters only !
Try again:
svatsa
Thank you! Your MIDAS ID is: svatsa
```



```
GNU nano 6.2 stevescript.sh
#!/bin/bash
read -p "Enter your Midas ID:" midasid

if [[ ! "$midasid" =~ ^[a-z]{4,8}$ ]]; then
    echo "You must enter a valid MIDAS ID it must be lowercase and between 4-8 characters long"
else
    echo "Thank you! your MIDAS ID is:" $midasid
fi
```

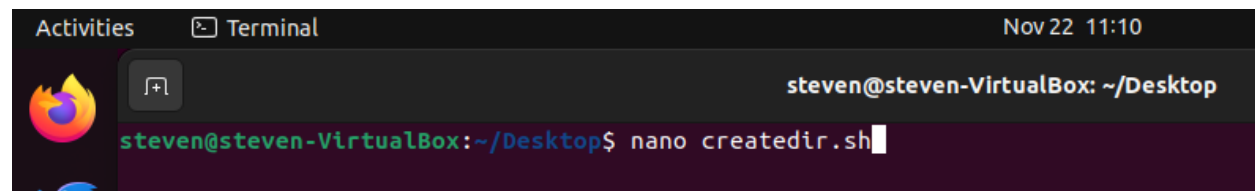


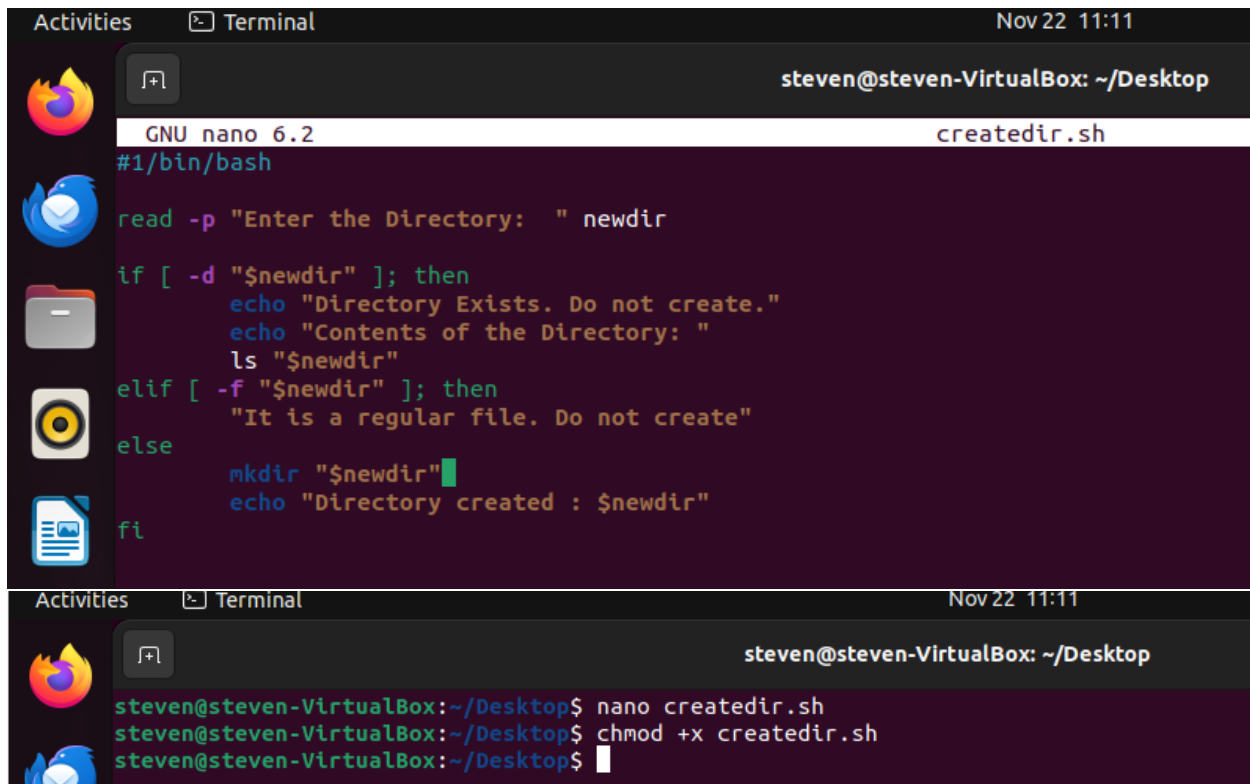
```
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ ./stevescript.sh
Enter your Midas ID:Steve
You must enter a valid MIDAS ID it must be lowercase and between 4-8 characters long
steven@steven-VirtualBox:~/Desktop$ ./stevescript.sh
Enter your Midas ID:ste
You must enter a valid MIDAS ID it must be lowercase and between 4-8 characters long
steven@steven-VirtualBox:~/Desktop$ ./stevescript.sh
Enter your Midas ID:steveeeere
You must enter a valid MIDAS ID it must be lowercase and between 4-8 characters long
steven@steven-VirtualBox:~/Desktop$ ./stevescript.sh
Enter your Midas ID:Steve
You must enter a valid MIDAS ID it must be lowercase and between 4-8 characters long
steven@steven-VirtualBox:~/Desktop$ ./stevescript.sh
Enter your Midas ID:steven
Thank you! your MIDAS ID is: steven
steven@steven-VirtualBox:~/Desktop$
```

Task B (Correct script (25 points) + result/output after executing the script (25 points) - Create a new directory Write a shell script like below, that performs the following task:

1. Reads the name of the directory.
2. Check whether the given input is a directory or regular file.
3. If the input is a directory and exists, then display the message "Directory exists. Do not create". a. (Extra credit: 10 points) Display the contents for that directory)
4. If the input is a regular file, then display the message "It is a regular file. Do not create".
5. If the given input name in step-1 doesn't exist, then create the new directory with the given name in step-1. (Sample screenshot for executing the script is shown below)

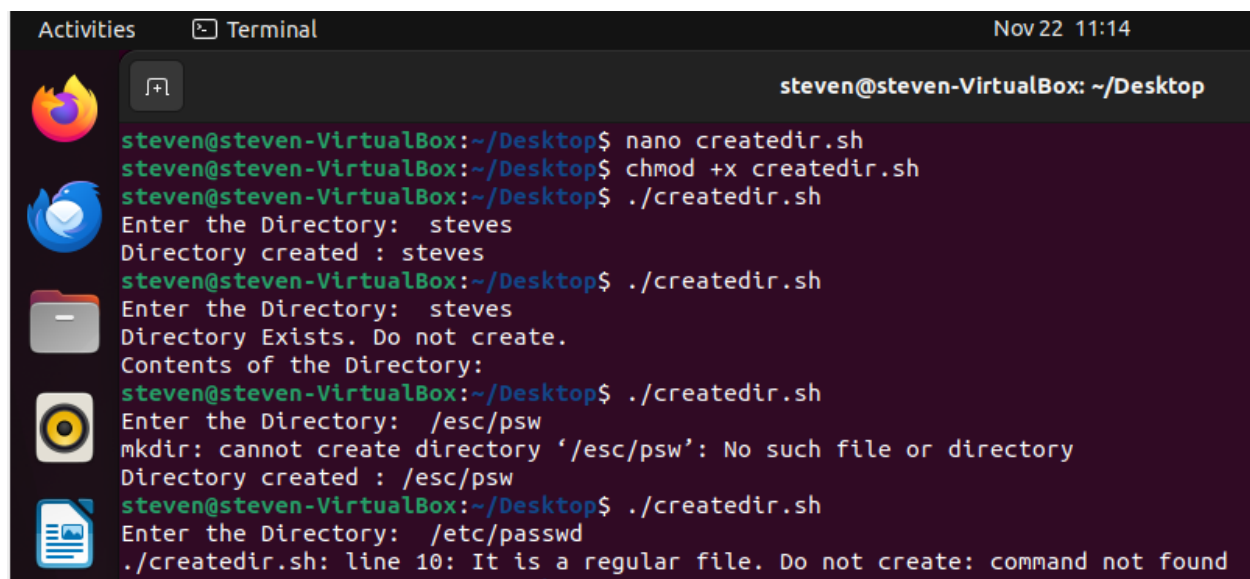
```
svatsa@svatsa-VirtualBox:~/script$ ./create_dir.sh
Enter the directory
/home
Directory exists! Do not create
svatsa@svatsa-VirtualBox:~/script$ ./create_dir.sh
Enter the directory
/etc/passwd
It is a regular file. Do not create.
svatsa@svatsa-VirtualBox:~/script$ ./create_dir.sh
Enter the directory
test_dir
Directory doesn't exist, creating test_dir now...
svatsa@svatsa-VirtualBox:~/script$ ls -l
```





```
Activities Terminal Nov 22 11:11
steven@steven-VirtualBox: ~/Desktop
GNU nano 6.2 createdir.sh
#1/bin/bash
read -p "Enter the Directory: " newdir
if [ -d "$newdir" ]; then
    echo "Directory Exists. Do not create."
    echo "Contents of the Directory: "
    ls "$newdir"
elif [ -f "$newdir" ]; then
    "It is a regular file. Do not create"
else
    mkdir "$newdir"
    echo "Directory created : $newdir"
fi
```

```
Activities Terminal Nov 22 11:11
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ nano createdir.sh
steven@steven-VirtualBox:~/Desktop$ chmod +x createdir.sh
steven@steven-VirtualBox:~/Desktop$
```



```
Activities Terminal Nov 22 11:14
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ nano createdir.sh
steven@steven-VirtualBox:~/Desktop$ chmod +x createdir.sh
steven@steven-VirtualBox:~/Desktop$ ./createdir.sh
Enter the Directory: steves
Directory created : steves
steven@steven-VirtualBox:~/Desktop$ ./createdir.sh
Enter the Directory: steves
Directory Exists. Do not create.
Contents of the Directory:
steven@steven-VirtualBox:~/Desktop$ ./createdir.sh
Enter the Directory: /etc/psw
mkdir: cannot create directory '/etc/psw': No such file or directory
Directory created : /etc/psw
steven@steven-VirtualBox:~/Desktop$ ./createdir.sh
Enter the Directory: /etc/passwd
./createdir.sh: line 10: It is a regular file. Do not create: command not found
```

Extra Credit(15 points)-

Check files Write a script like below that

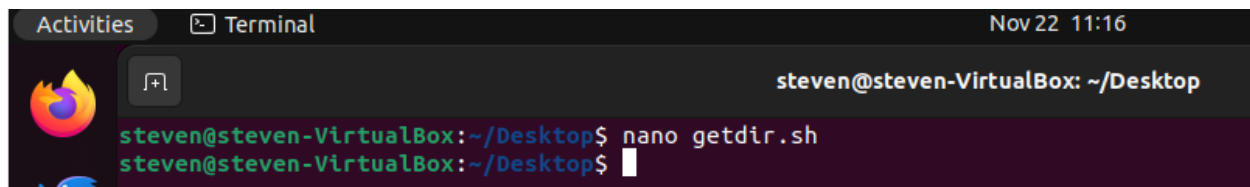
1. Gets the name of the directory as input.
2. Your script should check for the validity of the given directory name, if the entered filename is a directory or and pop out an error if an invalid directory name is entered.

3. You need to execute your script and test the following directories with your script (sample screenshot for executing the script is shown below in the screenshot): • /etc/systemd • /home • A directory that does not exist Display the contents for the directories you have entered (See the screenshot below)

```
└─$ ./check_files.sh
Type your MIDAS:
svatsa
Enter the name of the directory you want to check:
/etc/systemd
Below are the contents /files in the directory with name , /etc/systemd:
journald.conf  network          pstore.conf  sleep.conf  system.conf  user
logind.conf    networkd.conf  resolved.conf system      timesyncd.conf user.conf

(svatsa@svatsa)-[~]
└─$ ./check_files.sh
Type your MIDAS:
svatsa
Enter the name of the directory you want to check:
/home
Below are the contents /files in the directory with name , /home:
svatsa

(svatsa@svatsa)-[~]
└─$ ./check_files.sh
Type your MIDAS:
svatsa
Enter the name of the directory you want to check:
desktop
Sorry svatsa, the entered directory desktop is not a valid directory name.
```



```
Activities Terminal Nov 22 11:21
steven@steven-VirtualBox: ~/Desktop
GNU nano 6.2 getdir.sh *
#!/bin/bash
read -p "Enter the name of the directory" dirname
if [ -d "$dirname" ]; then
    echo "Contents of the directory $dirname:"
    ls "$dirname"
else
    echo "Error: '$dirname' is not a valid directory or does not exist."
fi
```

```
Activities Terminal Nov 23 08:23
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ nano getdir.sh
steven@steven-VirtualBox:~/Desktop$ chmod +x getdir.sh
steven@steven-VirtualBox:~/Desktop$
```

```
Activities Terminal Nov 23 08:24
steven@steven-VirtualBox: ~/Desktop
steven@steven-VirtualBox:~/Desktop$ nano getdir.sh
steven@steven-VirtualBox:~/Desktop$ chmod +x getdir.sh
steven@steven-VirtualBox:~/Desktop$ ./getdir.sh
Enter the name of the directory: /home
Contents of the directory /home:
cyse_project emma sday003 sophia steven
steven@steven-VirtualBox:~/Desktop$ ./getdir.sh
Enter the name of the directory: /class
Error: '/class' is not a valid directory or does not exist.
steven@steven-VirtualBox:~/Desktop$
```

Please note: Each student needs to screenshot your source code and the output after executing the script