CYSE 270: Linux System for Cybersecurity

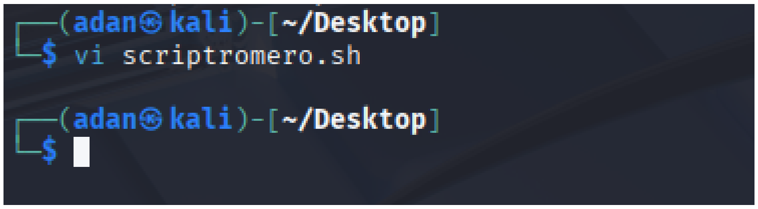
Lab 8 – Shell Scripting

(Total 100 Points)

Please refer to the slides for **week 8 - 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.

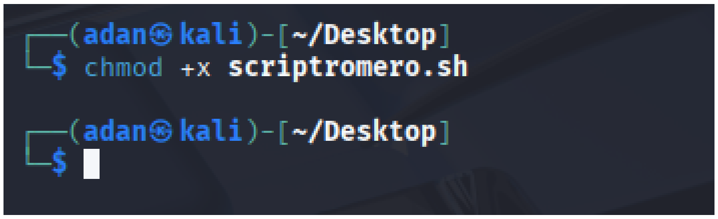
Step-1: Use vi or nano editor to write your script (Ex, **vi YourScriptName.sh**) for the following tasks.



```
┌──(adan㉿kali)-[~/Desktop]
└─$ vi scriptromero.sh

┌──(adan㉿kali)-[~/Desktop]
└─$ 
```

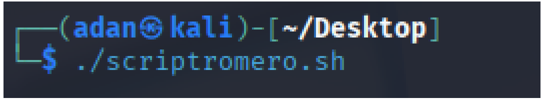
Step-2: After saving the script, **save and exit out of the editor** and make the script executable by adding execute permission (**chmod +x YourScriptName.sh**)



```
┌──(adan㉿kali)-[~/Desktop]
└─$ chmod +x scriptromero.sh

┌──(adan㉿kali)-[~/Desktop]
└─$ 
```

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

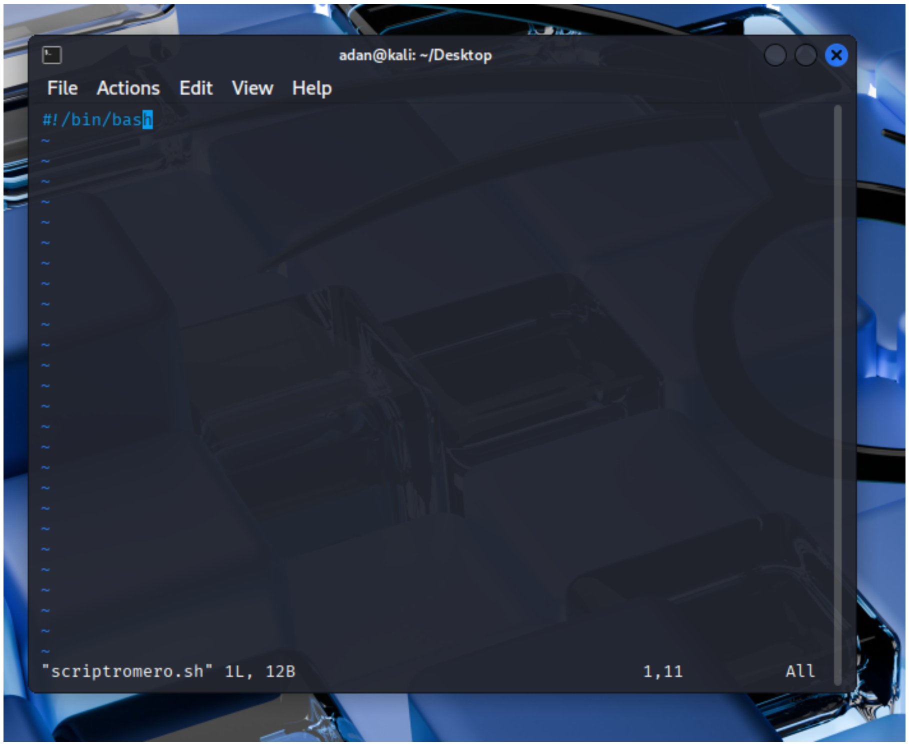


```
┌──(adan㉿kali)-[~/Desktop]
└─$ ./scriptromero.sh
```

Task A (Correct script (25 points) + result/output after executing the script (25 points)- Conditional Statement

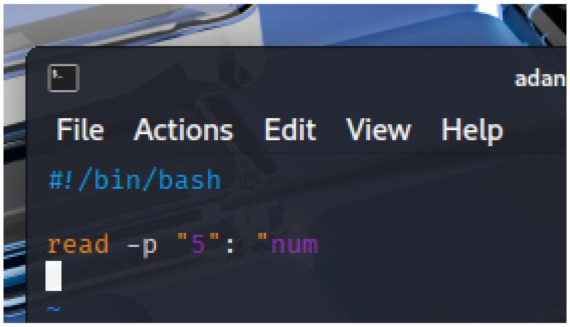
Write a shell script using nano or vi editor (eg, vi scriptname.sh) like below, that performs the following task:

1. Add the **Shebang** (#!/bin/bash) as the first line in your script.



```
#!/bin/bash
"scriptromero.sh" 1L, 12B                          1,11          All
```

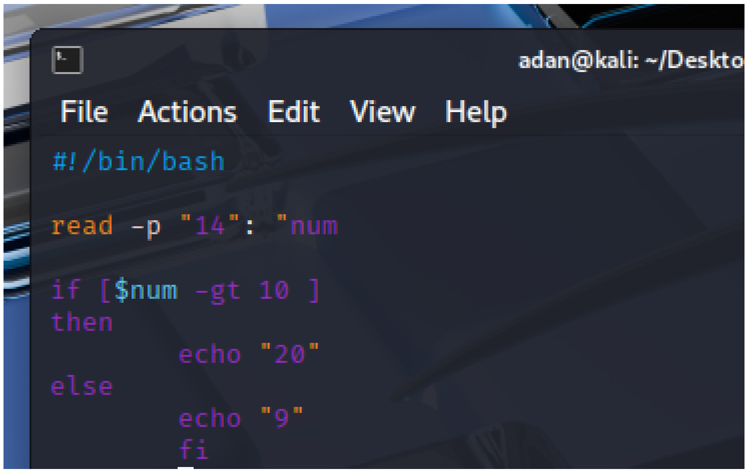
2. **Read** a number using **read** function



```
#!/bin/bash

read -p "5": "num
```

3. Using **if statement**, check if the input number is greater than 10, then print the message “**Input number is greater than 10**”.

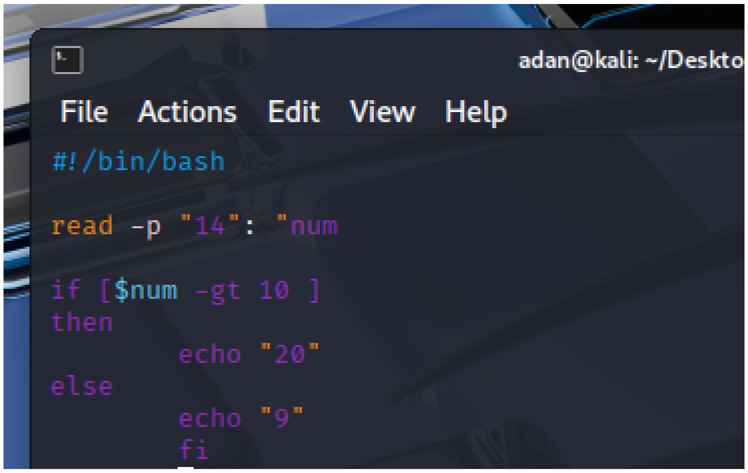


```
#!/bin/bash

read -p "14": "num

if [$num -gt 10 ]
then
        echo "20"
else
        echo "9"
        fi
```

4. If the number is not greater than 10, then print the message, “**Input number is not greater than 10”**.

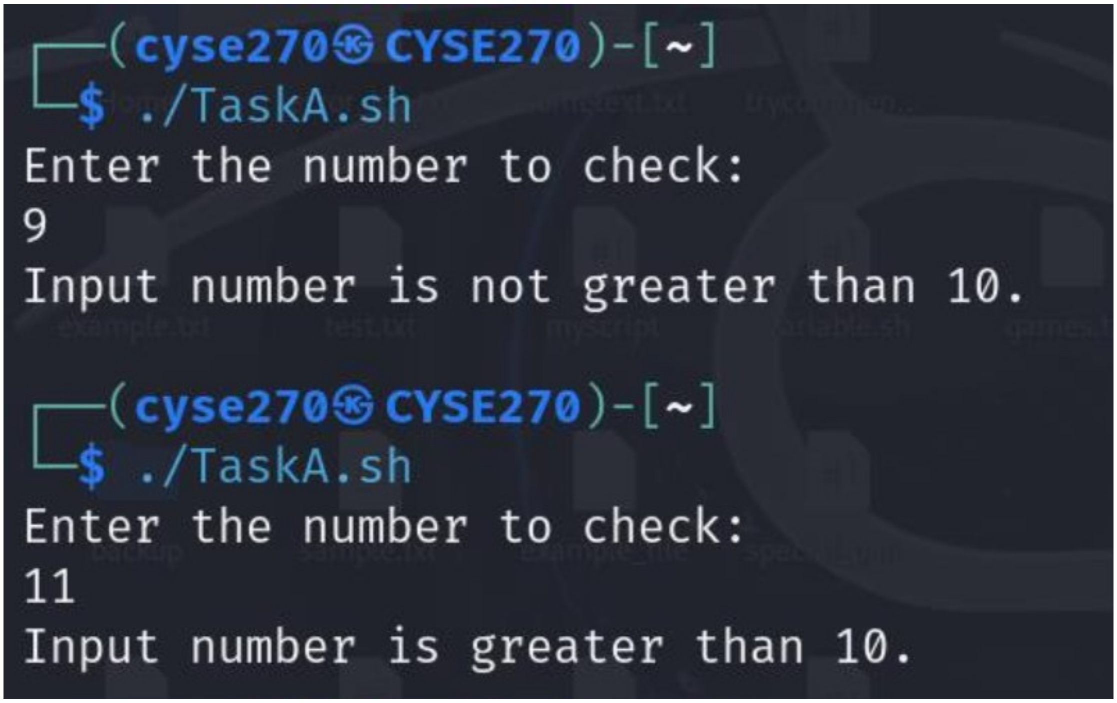


```
#!/bin/bash

read -p "14": "num

if [$num -gt 10 ]
then
        echo "20"
else
        echo "9"
        fi
```

(Your script should result into the output similar to this sample screenshot after executing as shown below)



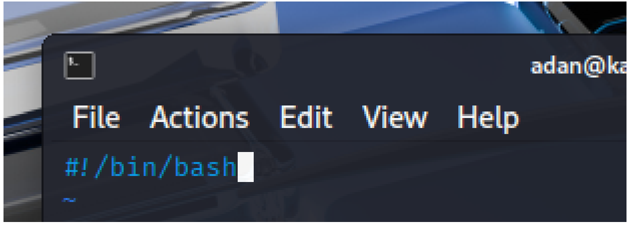
```
┌──(cyse270㉿CYSE270)-[~]
└─$ ./TaskA.sh
Enter the number to check:
9
Input number is not greater than 10.

┌──(cyse270㉿CYSE270)-[~]
└─$ ./TaskA.sh
Enter the number to check:
11
Input number is greater than 10.
```

<span style="color:red">Task B</span> (Correct script (25 points) + result/output after executing the script (25 points) - Shell Script to Create a new file

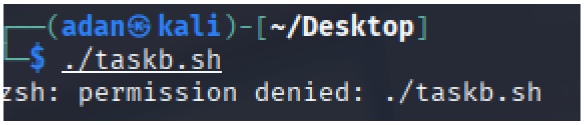
Write a shell script using nano or vi editor (eg, nano scriptname.sh) like below, that performs the following task:

1. Add the **Shebang** (#!/bin/bash) as the first line in your script.



```
#!/bin/bash
~
```

2. **Reads** the **name** of the file to check for a filename that exists.



```
┌──(adan㉿kali)-[~/Desktop]
└─$ ./taskb.sh
zsh: permission denied: ./taskb.sh
```

3. Check whether the given input is a directory or regular file.

4. If the input is a directory and exists, then display the message “**Directory exists**”.

5. If the input is a regular file, then display the message “**It is a regular file, and the file exists**” and display the contents of the file.

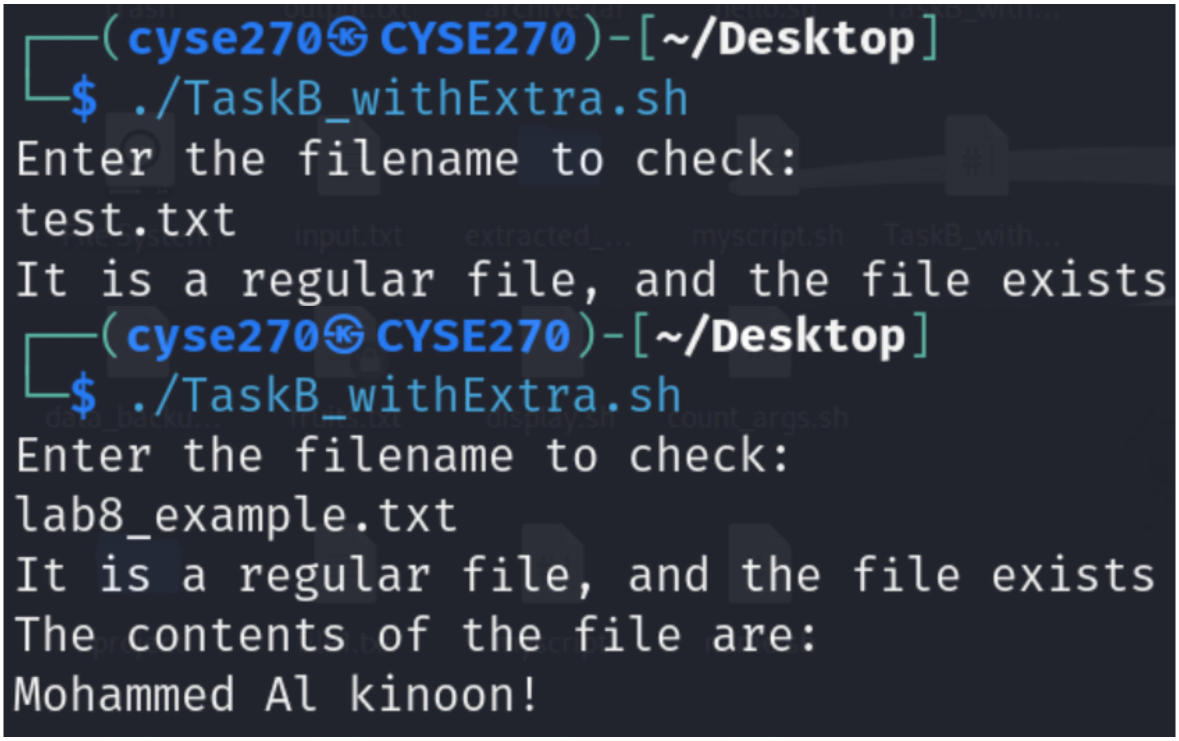
6. **If the given input name in step-1 doesn’t exist**, then create the new file with the given

name in step-1.

(Extra credit: 10 points) Add your name to the file (using redirection operator '>') and display the contents for the newly created file.

7. Save and exit the editor and remember to make the script executable using the command **chmod +x scriptname.sh**)

(Your script should result into the output similar to this sample screenshot after executing as shown below)



```
┌──(cyse270㉿CYSE270)-[~/Desktop]
└─$ ./TaskB_withExtra.sh
Enter the filename to check:
test.txt
It is a regular file, and the file exists
┌──(cyse270㉿CYSE270)-[~/Desktop]
└─$ ./TaskB_withExtra.sh
Enter the filename to check:
lab8_example.txt
It is a regular file, and the file exists
The contents of the file are:
Mohammed Al kinoon!
```

Extra Credit (15 points)- Check Directory

Write a script like below that

1. Reads Two variables- your name and 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, then display its contents

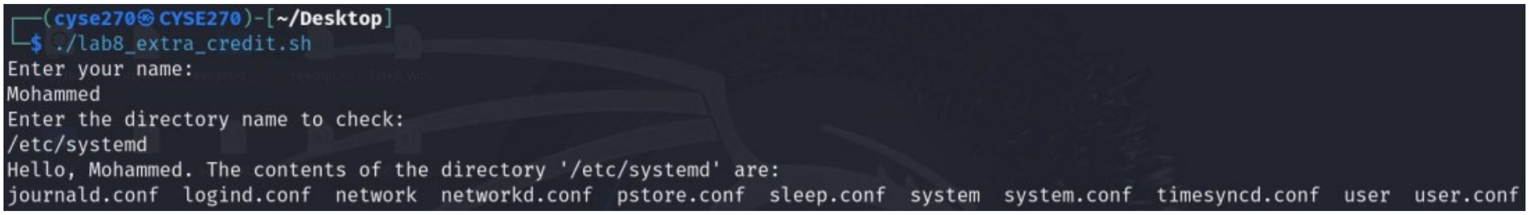
3. If the directory doesn't exist, then print an error message "Sorry, the entered directory name is not a valid directory name."

4. You need to execute your script and test the following directories to test with your script

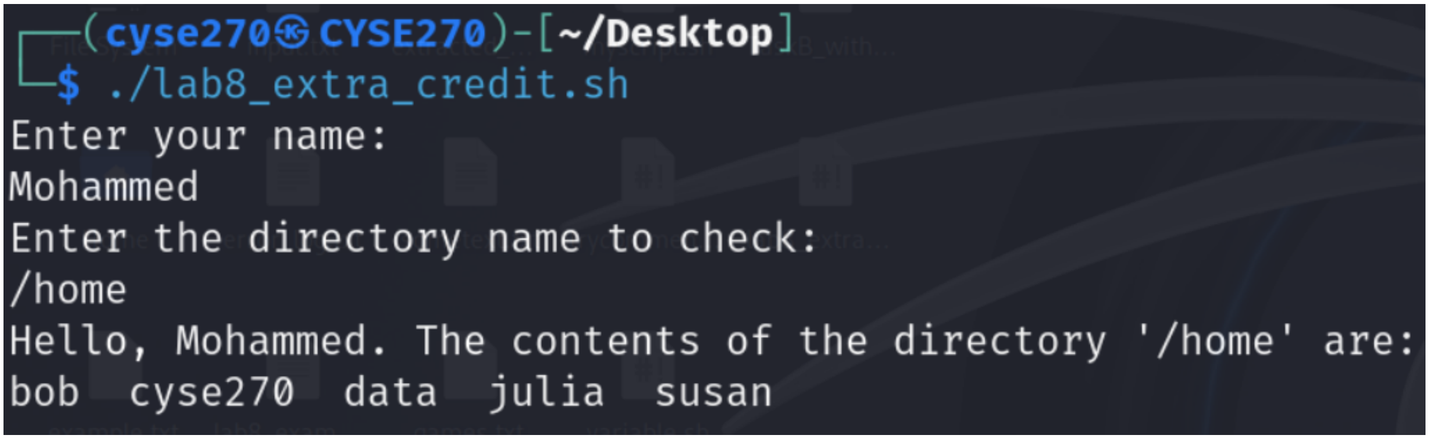
- /etc/systemd
- /home
- A directory that does not exist

Display the contents for the directories you have entered

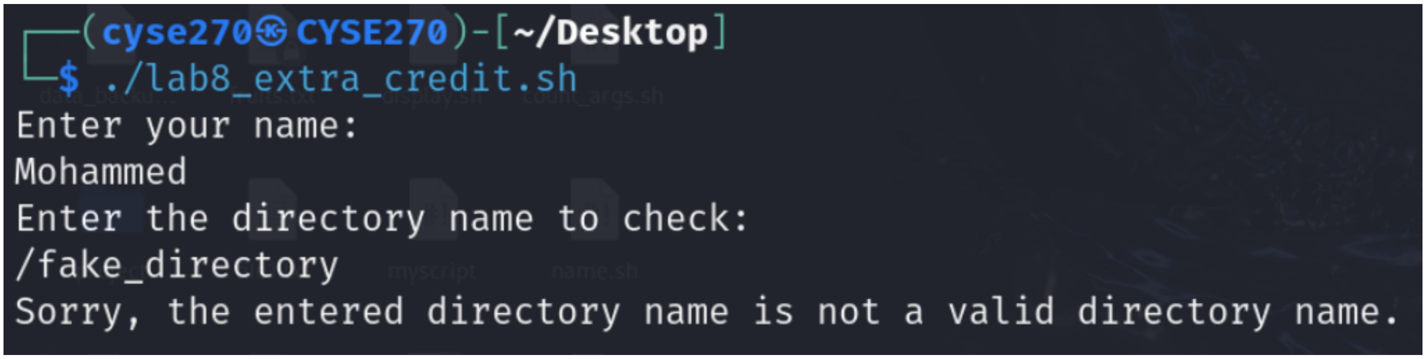
(See the screenshot below where the script has been executed 3 times to check for the Three different directory names as the test input)



```
┌──(cyse270㉿CYSE270)-[~/Desktop]
└─$ ./lab8_extra_credit.sh
Enter your name:
Mohammed
Enter the directory name to check:
/etc/systemd
Hello, Mohammed. The contents of the directory '/etc/systemd' are:
journald.conf  logind.conf  network  networkd.conf  pstore.conf  sleep.conf  system  system.conf  timesyncd.conf  user  user.conf
```



```
┌──(cyse270㉿CYSE270)-[~/Desktop]
└─$ ./lab8_extra_credit.sh
Enter your name:
Mohammed
Enter the directory name to check:
/home
Hello, Mohammed. The contents of the directory '/home' are:
bob  cyse270  data  julia  susan
```



```
┌──(cyse270㉿CYSE270)-[~/Desktop]
└─$ ./lab8_extra_credit.sh
Enter your name:
Mohammed
Enter the directory name to check:
/fake_directory
Sorry, the entered directory name is not a valid directory name.
```