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, nano YourScriptName.sh) for the following tasks.

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**)

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

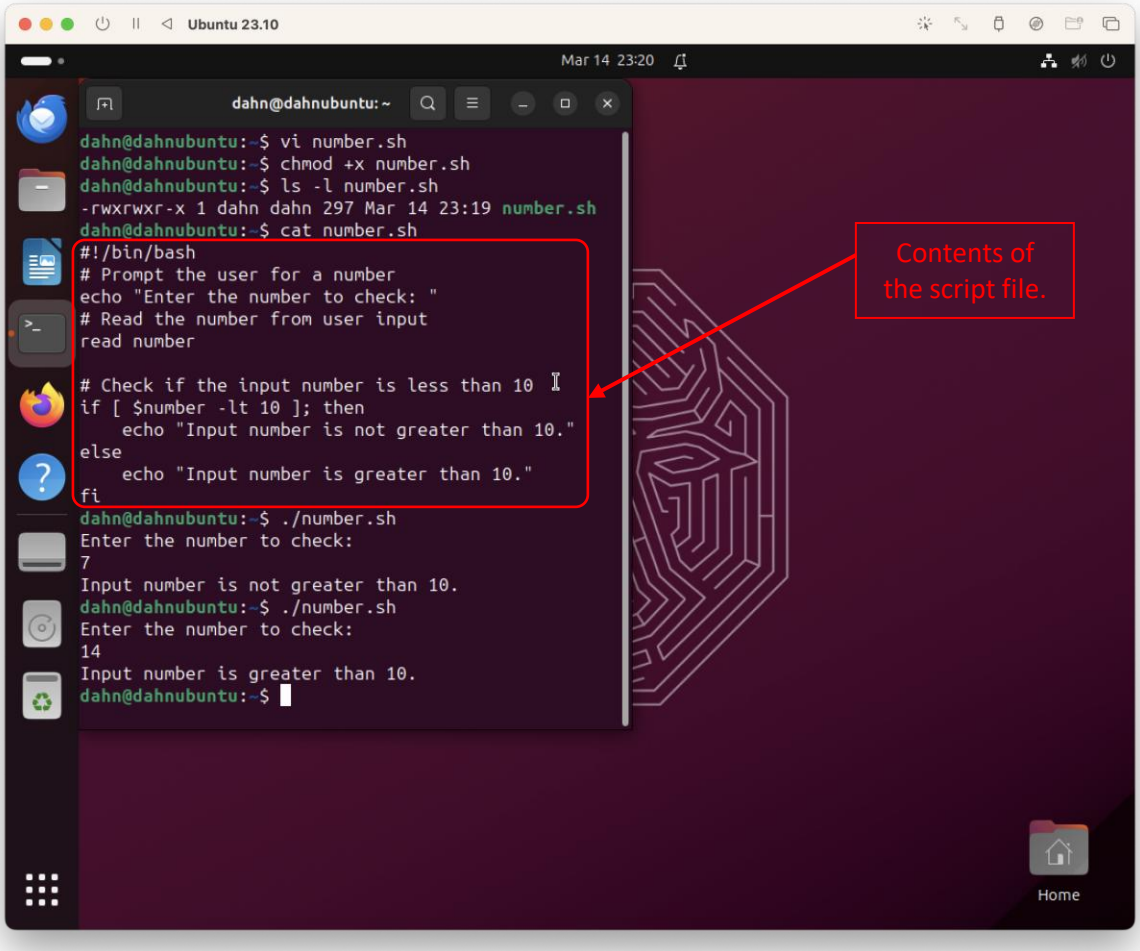
Task A **(Correct script (25 points) + result/output after executing the script (25 points)-** Conditional Statement

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

1. Add the Shebang (#!/bin/bash) as the first line in your script.
2. Read a number using read function
3. Using if statement, check if the input number is less than 10, then print the message “Input number is greater than 10.
4. If the number is not greater than 10, then print the message, “Input number is not greater than 10.

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

```
svatsa@CYSE695:~$ nano ex-8-2.sh
svatsa@CYSE695:~$ chmod +x ex-8-2.sh
svatsa@CYSE695:~$ ./ex-8-2.sh
Enter the number to check:
9
Input number is not greater than 10.
svatsa@CYSE695:~$ ./ex-8-2.sh
Enter the number to check:
11
Input number is greater than 10.
svatsa@CYSE695:~$ _
```



- I issued the command vi number.sh to create my shell script (number.sh is my script name).
- The command chmod +x number.sh was issued to set the execute permission to my script file for the user, and the command ls -l number.sh was issued to verify that the permission was properly set.
- I issued the command cat number.sh to display the content of my script file.
- Finally, I run my script with the command ./number.sh

Task B (Correct script (25 points) + result/output after executing the script (25 points) - Shell Script to Create a new file

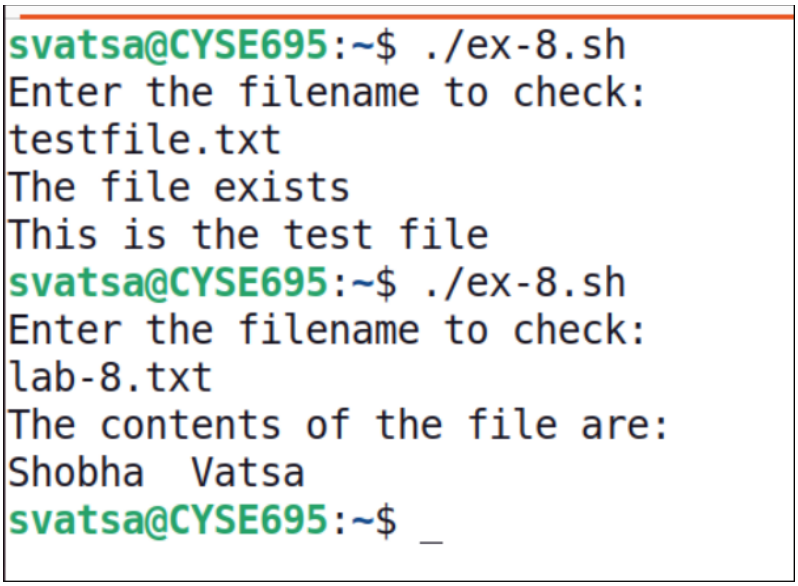
Write a shell script using nano or vi editor (eg, nano scriptname.sh) like below, that performs the following task:

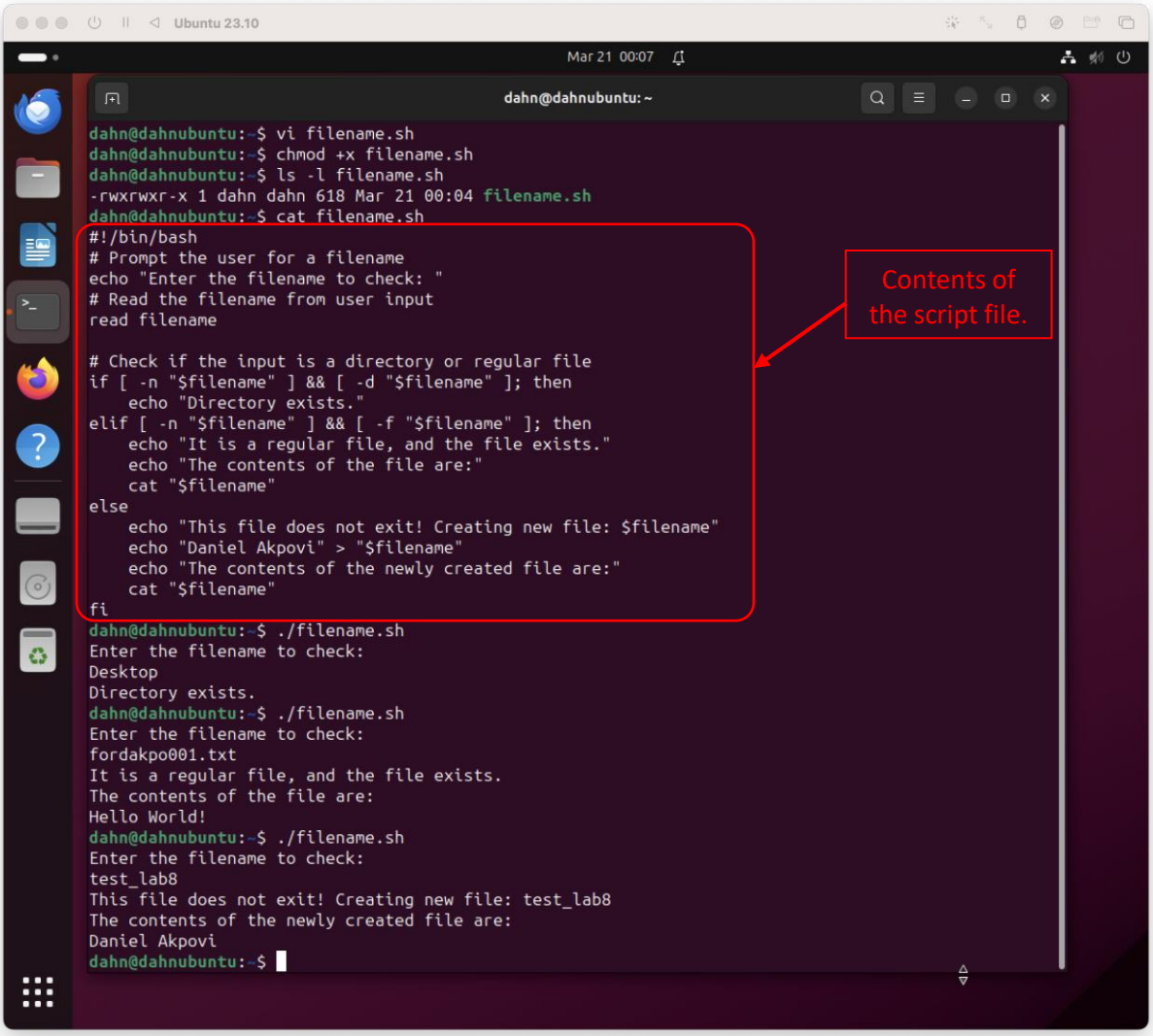
1. Add the Shebang (#!/bin/bash) as the first line in your script.
2. **Reads** the name of the file to check for a filename that exists.
3. Check whether the given input is a directory or regular file.
4. **If the input is a directory** and exists, then display the message "Directory exists".
5. **If 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)


svatsa@CYSE695:~$ ./ex-8.sh
Enter the filename to check:
testfile.txt
The file exists
This is the test file
svatsa@CYSE695:~$ ./ex-8.sh
Enter the filename to check:
lab-8.txt
The contents of the file are:
Shobha Vatsa
svatsa@CYSE695:~$ _



- I issued the command vi filename.sh to create my shell script (filename.sh is my script name).
- The command chmod +x filename.sh was issued to set the execute permission to my script file for the user, and the command ls -l filename.sh was issued to verify that the permission was properly set.
- I issued the command cat filename.sh to display the content of my script file.
- Finally, I run my script with the command ./filename.sh

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

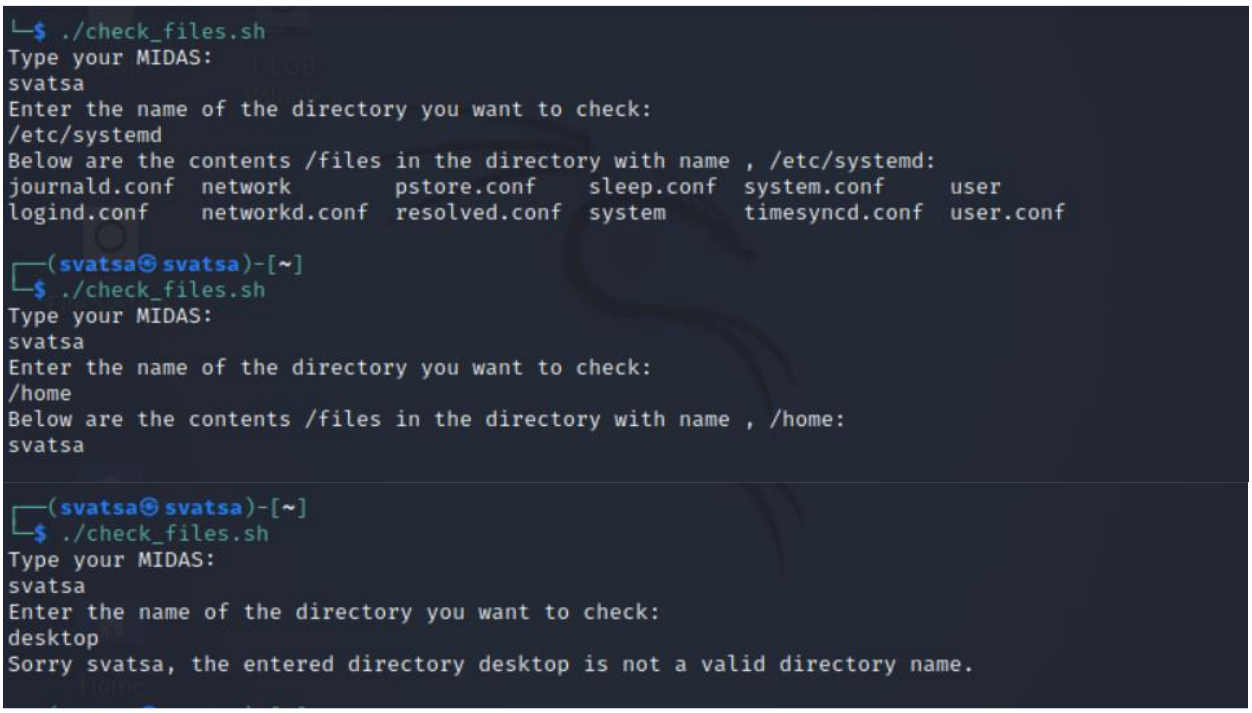
- **/etc/systemd**

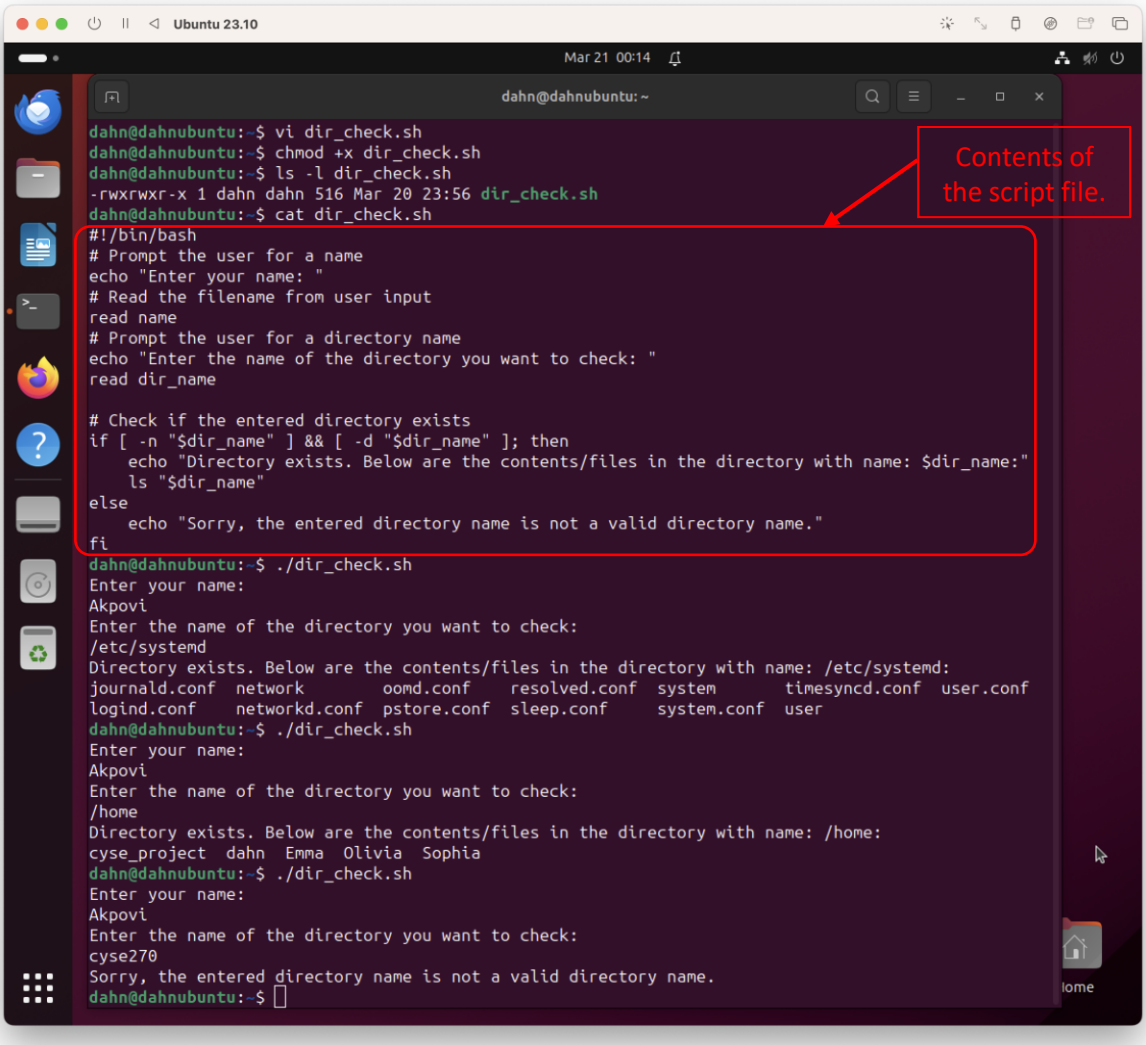
- **/home**

- **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)





- I issued the command vi dir_check.sh to create my shell script (dir_check.sh is my script name).
- The command chmod +x dir_check.sh was issued to set the execute permission to my script file for the user, and the command ls -l dir_check.sh was issued to verify that the permission was properly set.
- I issued the command cat dir_check.sh to display the content of my script file.
- Finally, I run my script with the command ./dir_check.sh