CYSE 270: Linux System for Cybersecurity

Lab 8 – Shell Scripting
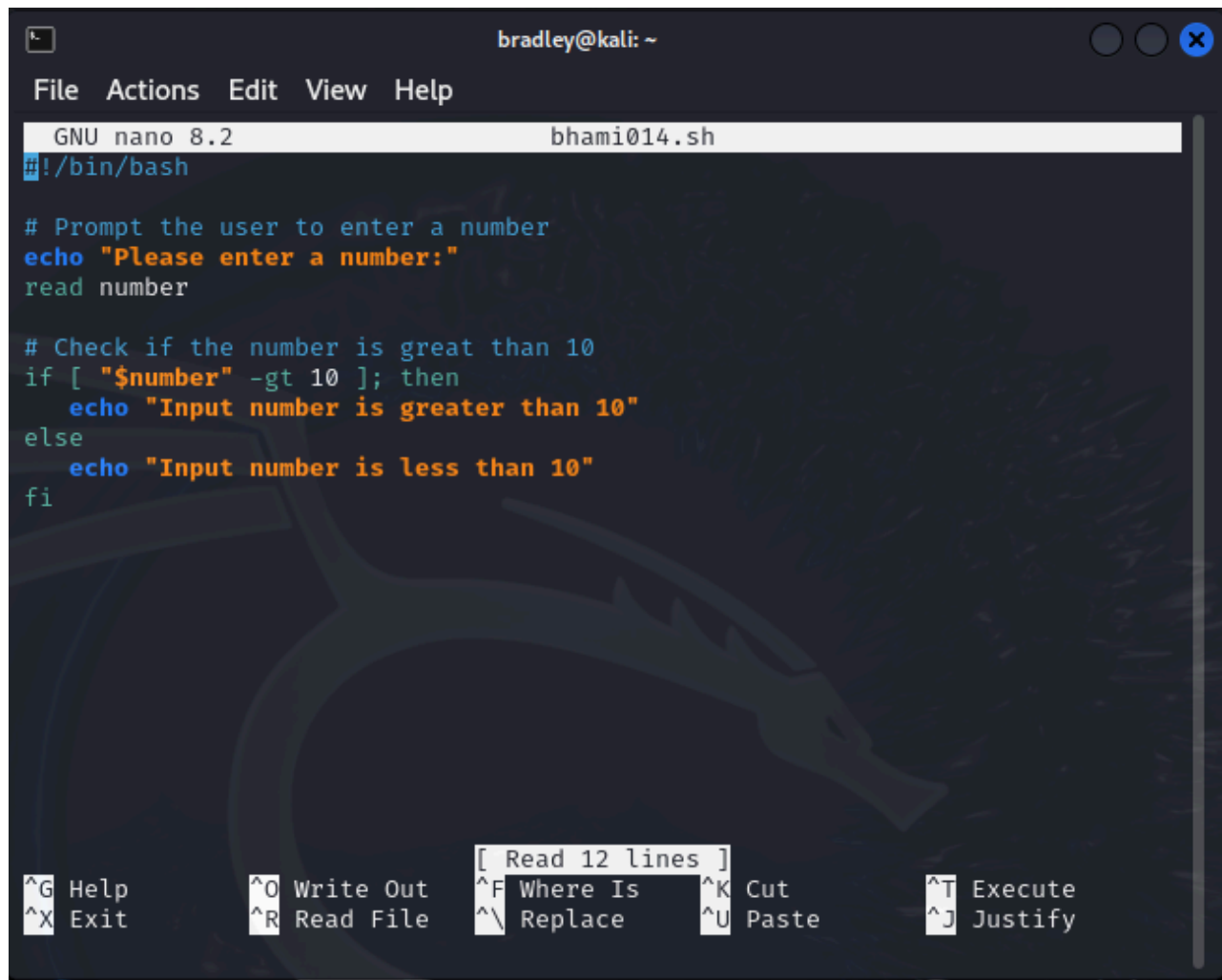
(Total 100 Points)

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**

```
                              bradley@kali: ~

File  Actions  Edit  View  Help

  GNU nano 8.2                       bhami014.sh
#!/bin/bash

# Prompt the user to enter a number
echo "Please enter a number:"
read number

# Check if the number is great than 10
if [ "$number" -gt 10 ]; then
    echo "Input number is greater than 10"
else
    echo "Input number is less than 10"
fi




                          [ Read 12 lines ]
^G Help        ^O Write Out  ^F Where Is   ^K Cut      ^T Execute
^X Exit        ^R Read File  ^\ Replace    ^U Paste    ^J Justify
```
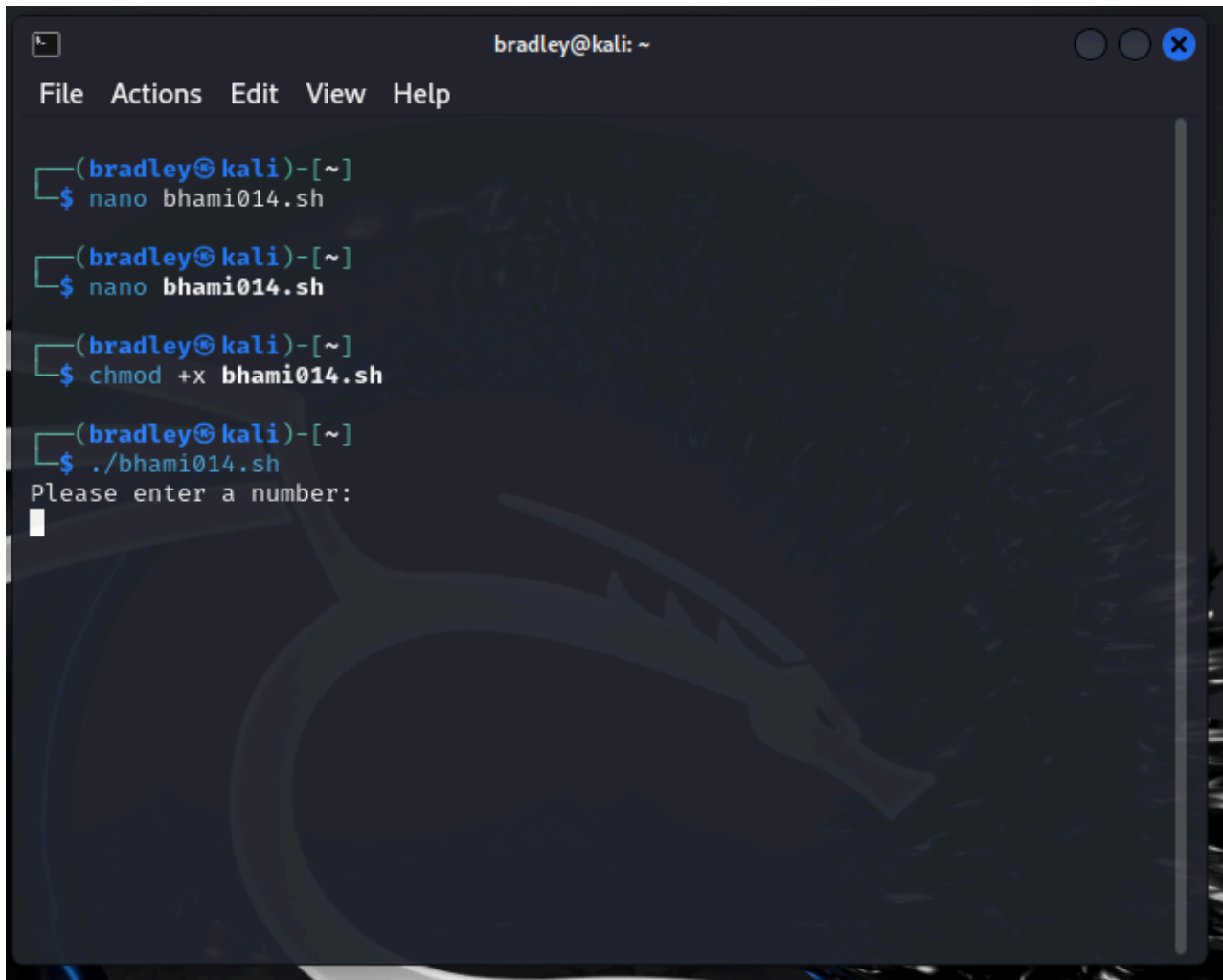
Task A (Correct script (25 points) + result/output after executing the script (25

points)- Conditional Statement

Write a shell script using nano or vi editor (eg, <u>nano scriptname.sh</u>) 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 greater 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)

```
┌──(bradley㉿kali)-[~]
└─$ nano bhami014.sh

┌──(bradley㉿kali)-[~]
└─$ nano bhami014.sh

┌──(bradley㉿kali)-[~]
└─$ chmod +x bhami014.sh

┌──(bradley㉿kali)-[~]
└─$ ./bhami014.sh
Please enter a number:
9
Input number is less than 10

┌──(bradley㉿kali)-[~]
└─$ 11
11: command not found

┌──(bradley㉿kali)-[~]
└─$ ./bhami014.sh
Please enter a number:
11
Input number is greater than 10

┌──(bradley㉿kali)-[~]
└─$ 
```

```
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:~$ _
```

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)

```bash
  GNU nano 8.2                        bhami014-2.sh
#!/bin/bash

# Read the name of the file
read -p "Enter the name of the file to check: " filename

# Check whether the input is a directory or regular file
if [ -d "$filename" ]; then
    echo "Directory exists"
elif [ -f "$filename" ]; then
    echo "It is a regular file. The file exists."
    cat "$filename"
else
    # If the input name doesn't exist, create a new file with the name
    touch "$filename"
    echo "File '$filename' created"
fi
```

```
[ Read 16 lines ]
^G Help       ^O Write Out   ^F Where Is   ^K Cut     ^T Execute
^X Exit       ^R Read File   ^\ Replace    ^U Paste   ^J Justify
```

```
┌──(bradley㉿kali)-[~]
└─$ nano bhami014-2.sh

┌──(bradley㉿kali)-[~]
└─$ chmod +x bhami014-2.sh

┌──(bradley㉿kali)-[~]
└─$ ./bhami014-2.sh
Enter the name of the file to check: testfile.txt
File 'testfile.txt' created

┌──(bradley㉿kali)-[~]
└─$ ./bhami014-2.sh
Enter the name of the file to check: testfile.txt
It is a regular file. The file exists.

┌──(bradley㉿kali)-[~]
└─$ █
```

```bash
  GNU nano 8.2                        bhami014-2.sh
#!/bin/bash

# Read the name of the file
read -p "Enter the name of the file to check: " filename

# Check whether the input is a directory or regular file
if [ -d "$filename" ]; then
    echo "Directory exists"
elif [ -f "$filename" ]; then
    echo "It is a regular file. The file exists."
    cat "$filename"
else
    # If the input name doesn't exist, create a new file with the name
    touch "$filename"
    echo "File '$filename' created"
    echo "Bradley Hamilton" > "$filename"
    echo "Contents of the newly created file:"
    cat "$filename"
fi

                         [ Read 19 lines ]
^G Help      ^O Write Out  ^F Where Is  ^K Cut    ^T Execute
^X Exit      ^R Read File  ^\ Replace   ^U Paste  ^J Justify
```

```
┌──(bradley㉿kali)-[~]
└─$ ./bhami014-2.sh
Enter the name of the file to check: textfile2.txt
File 'textfile2.txt' created
Contents of the newly created file:
Bradley Hamilton

┌──(bradley㉿kali)-[~]
└─$ ▯
```

```
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:~$ _
```