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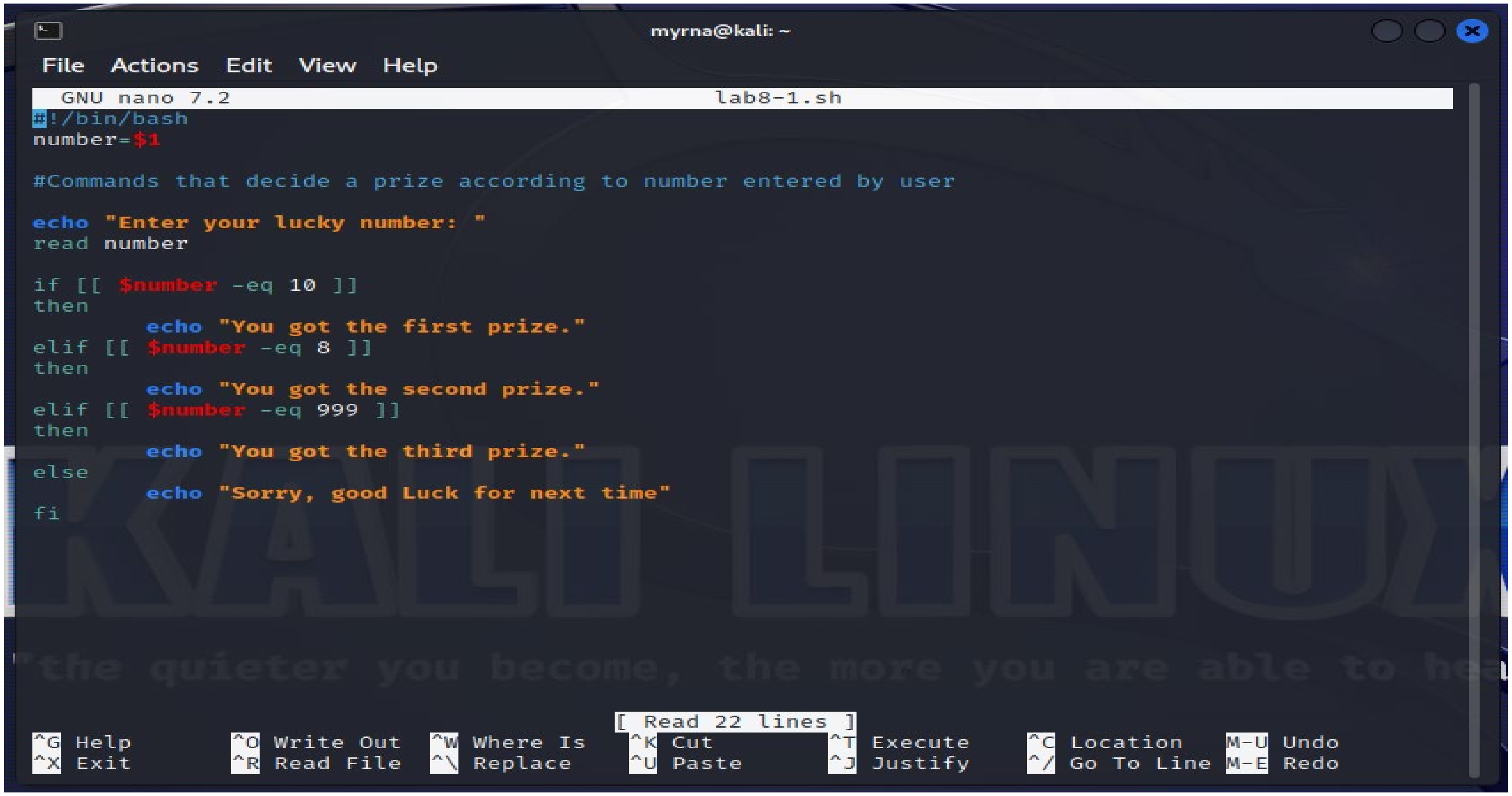
CYSE 270_20306

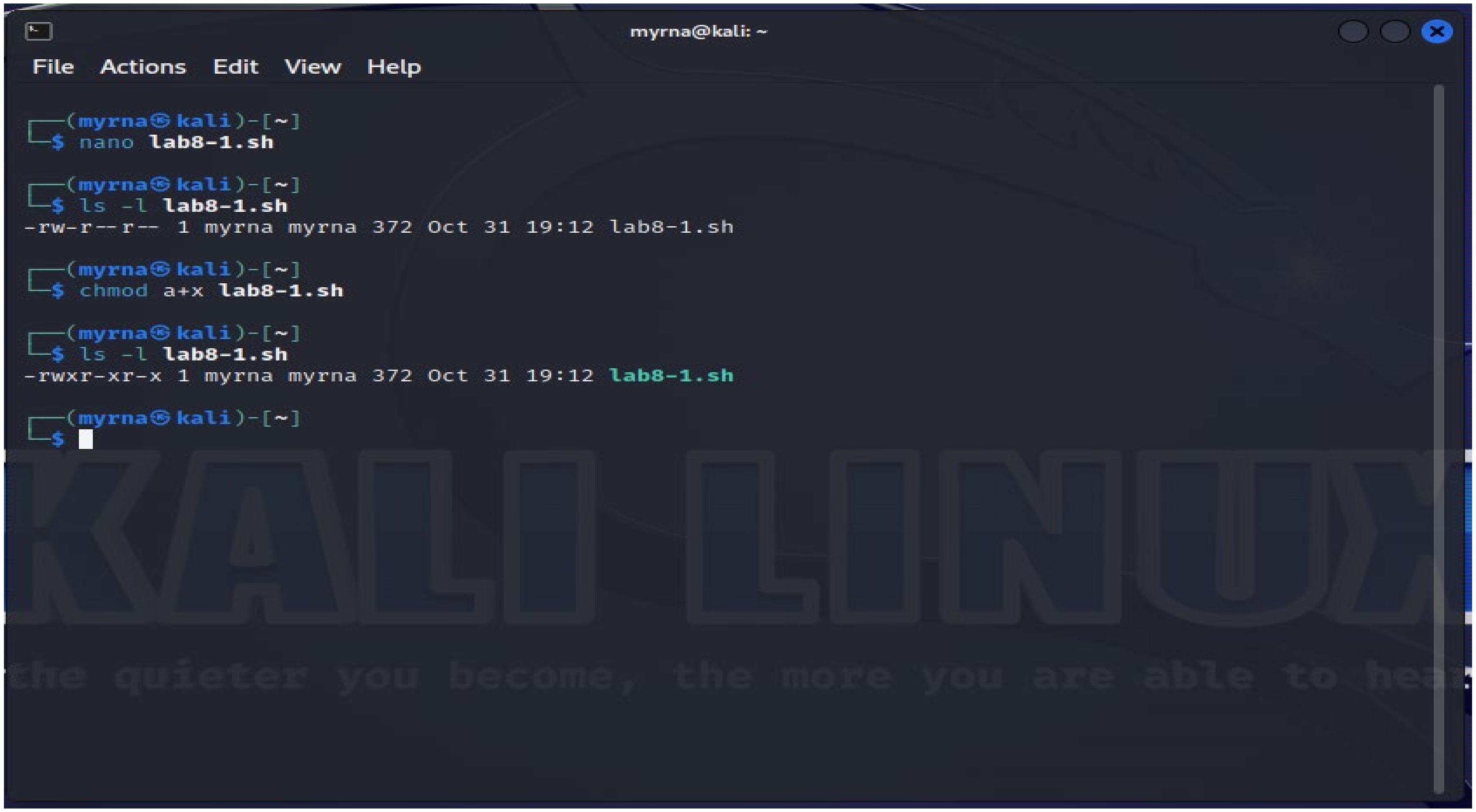
October 31, 2023

Task A, Step 1: A shell script is written using nano with if-elif-else conditions to determine if a person won one of three prizes according to their favorite number.



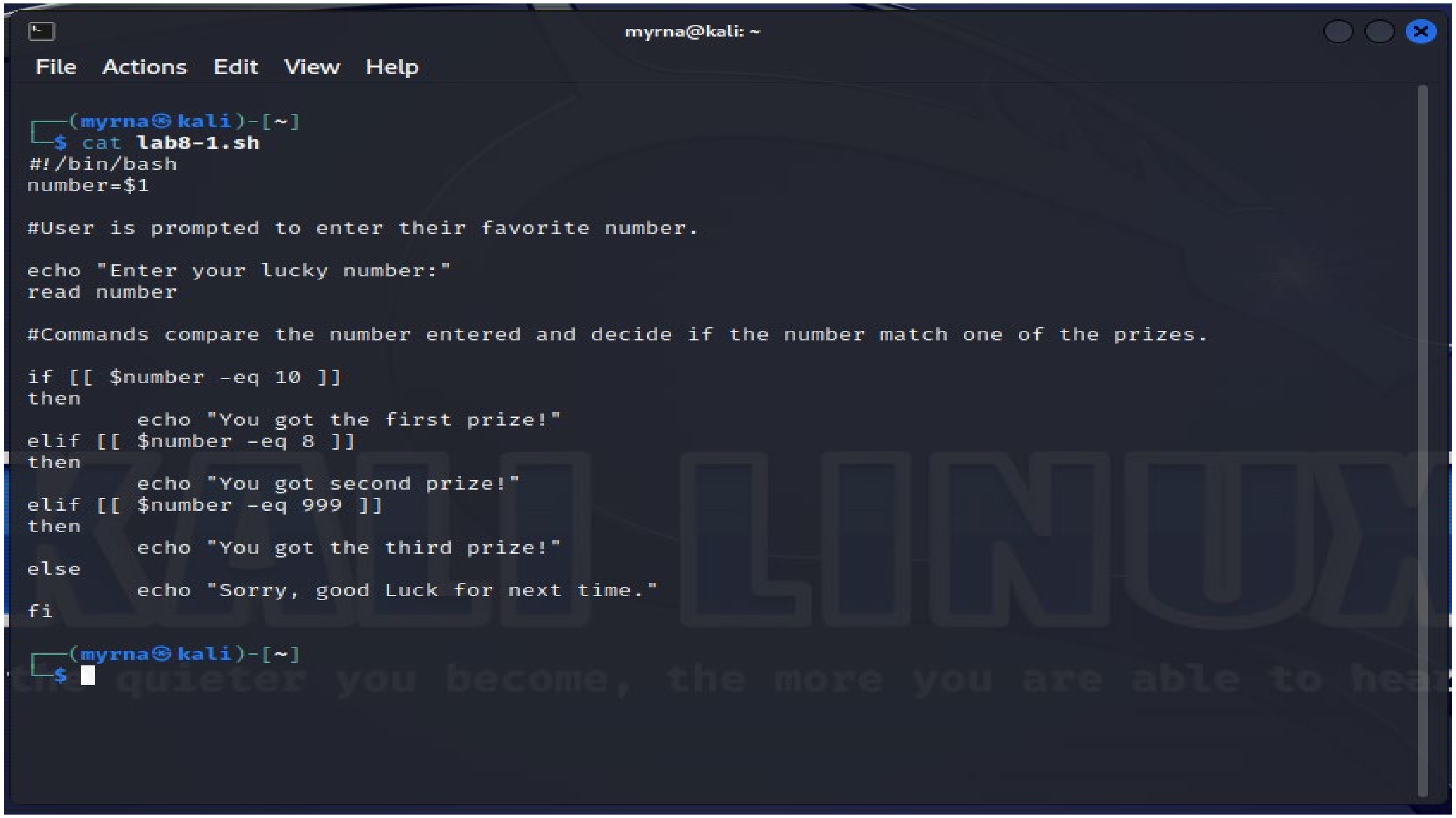
```
  GNU nano 7.2                              lab8-1.sh
#!/bin/bash
number=$1

#Commands that decide a prize according to number entered by user

echo "Enter your lucky number: "
read number

if [[ $number -eq 10 ]]
then
        echo "You got the first prize."
elif [[ $number -eq 8 ]]
then
        echo "You got the second prize."
elif [[ $number -eq 999 ]]
then
        echo "You got the third prize."
else
        echo "Sorry, good Luck for next time"
fi

                              [ Read 22 lines ]
^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo
```

Step 2: Using ls -l lab8-1.sh we verify the permissions of the file. Using chmod a+x lab8-1.sh we add executing privileges to users and verify again that it is done with ls -l.



```
┌──(myrna㉿kali)-[~]
└─$ nano lab8-1.sh

┌──(myrna㉿kali)-[~]
└─$ ls -l lab8-1.sh
-rw-r--r-- 1 myrna myrna 372 Oct 31 19:12 lab8-1.sh

┌──(myrna㉿kali)-[~]
└─$ chmod a+x lab8-1.sh

┌──(myrna㉿kali)-[~]
└─$ ls -l lab8-1.sh
-rwxr-xr-x 1 myrna myrna 372 Oct 31 19:12 lab8-1.sh

┌──(myrna㉿kali)-[~]
└─$ 
```

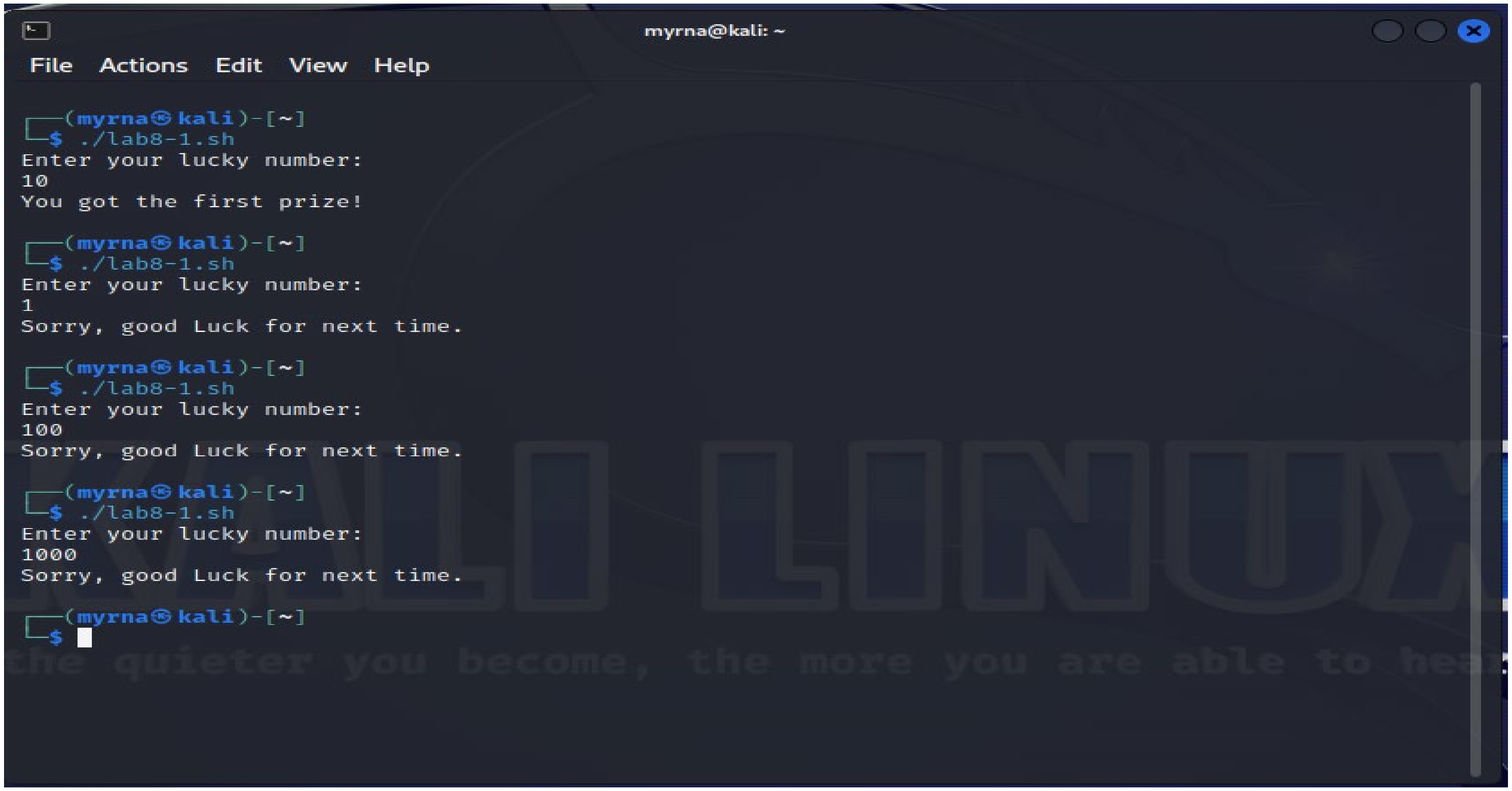
Step 3: We use cat lab8-1.sh to read the file content and make sure the content is correct.


myrna@kali: ~

File Actions Edit View Help

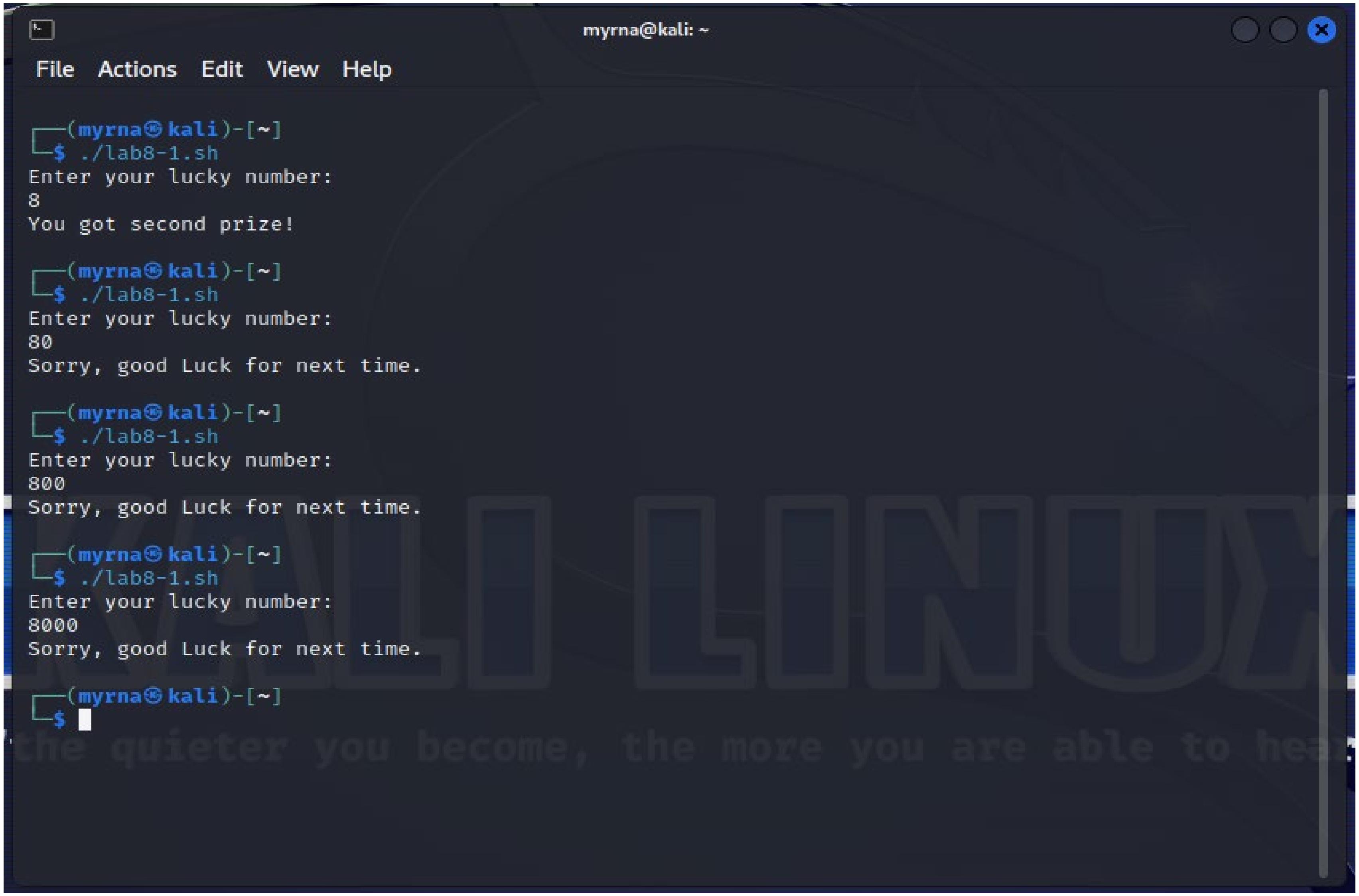
```
┌──(myrna㉿kali)-[~]
└─$ cat lab8-1.sh
#!/bin/bash
number=$1

#User is prompted to enter their favorite number.

echo "Enter your lucky number:"
read number

#Commands compare the number entered and decide if the number match one of the prizes.

if [[ $number -eq 10 ]]
then
        echo "You got the first prize!"
elif [[ $number -eq 8 ]]
then
        echo "You got second prize!"
elif [[ $number -eq 999 ]]
then
        echo "You got the third prize!"
else
        echo "Sorry, good Luck for next time."
fi

┌──(myrna㉿kali)-[~]
└─$ 
```

Step 4 a-b-c: A test is performed using the correct numbers, and also similar ones to make sure that the script recognizes the correct ones and reject the others.



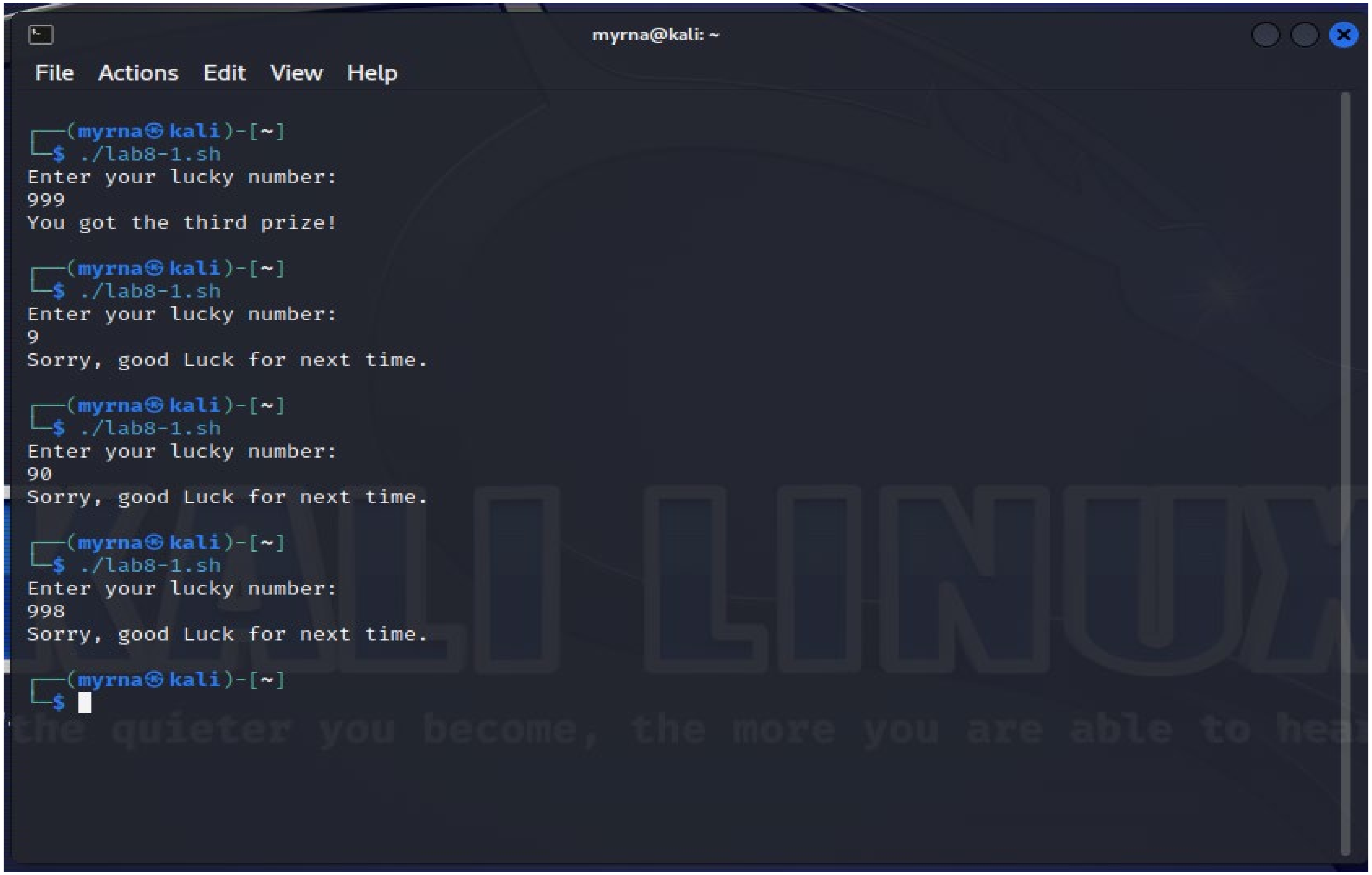
```
┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
10
You got the first prize!

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
1
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
100
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
1000
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ 
```

Step 4b:



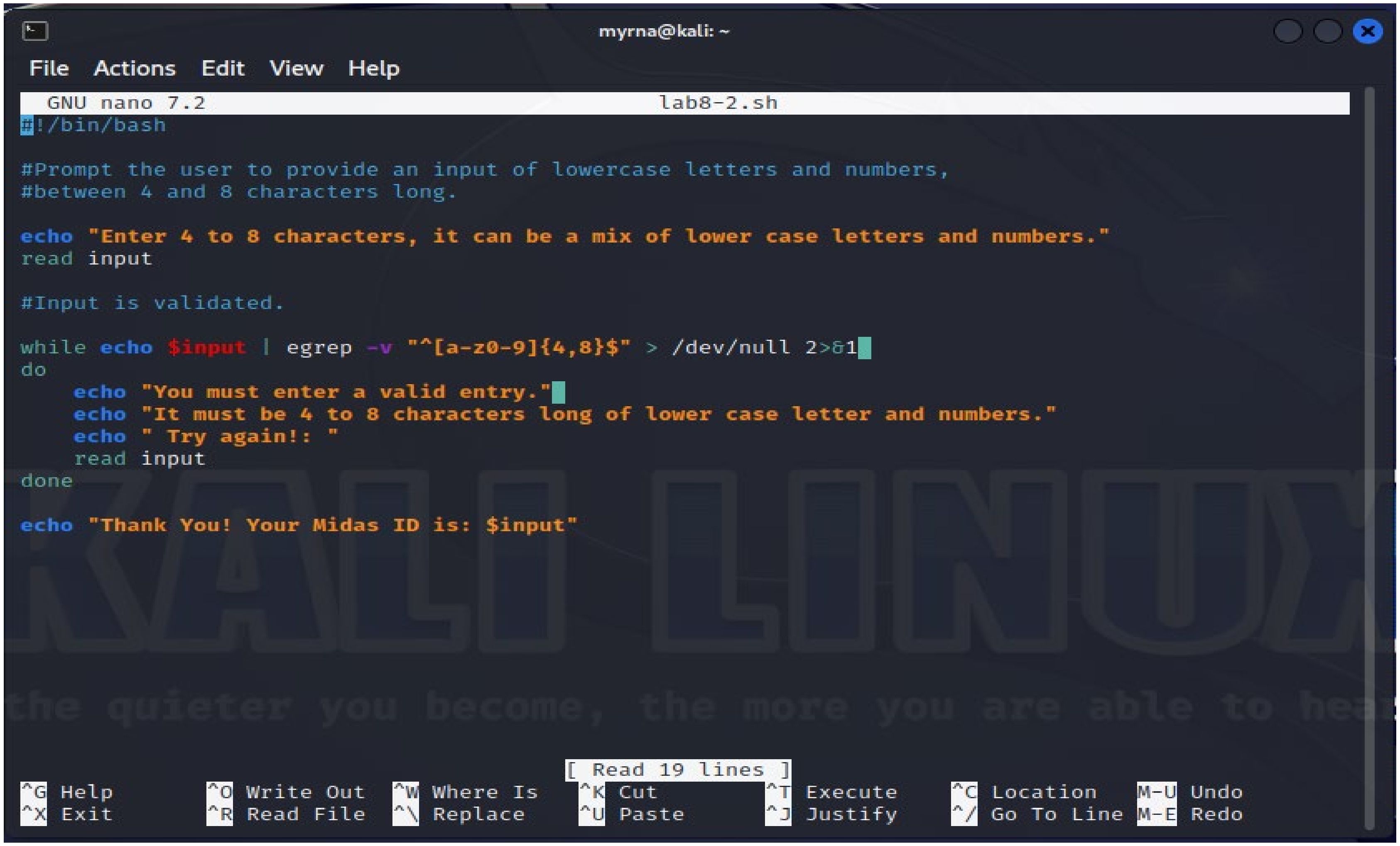
```
┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
8
You got second prize!

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
80
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
800
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
8000
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$
```

Step 4c:



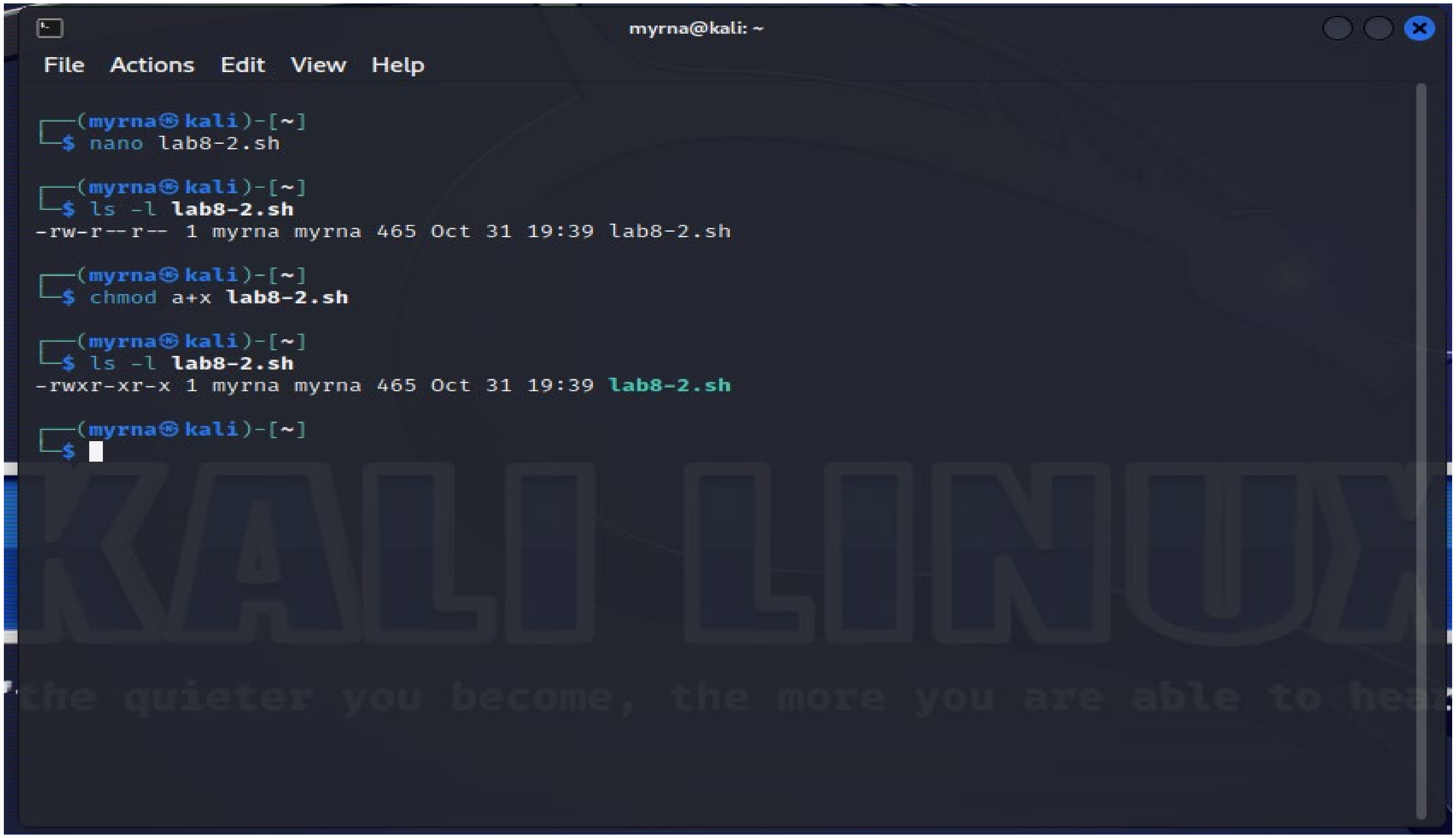
```
┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
999
You got the third prize!

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
9
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
90
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ ./lab8-1.sh
Enter your lucky number:
998
Sorry, good Luck for next time.

┌──(myrna㉿kali)-[~]
└─$ 
```

Task B Step 1: Using nano editor we wrote a script to ask a user for an input of 4 to 8 characters of lower-case letters and numbers 0 to 9. A while loop is use with the command egrep to perform the task.



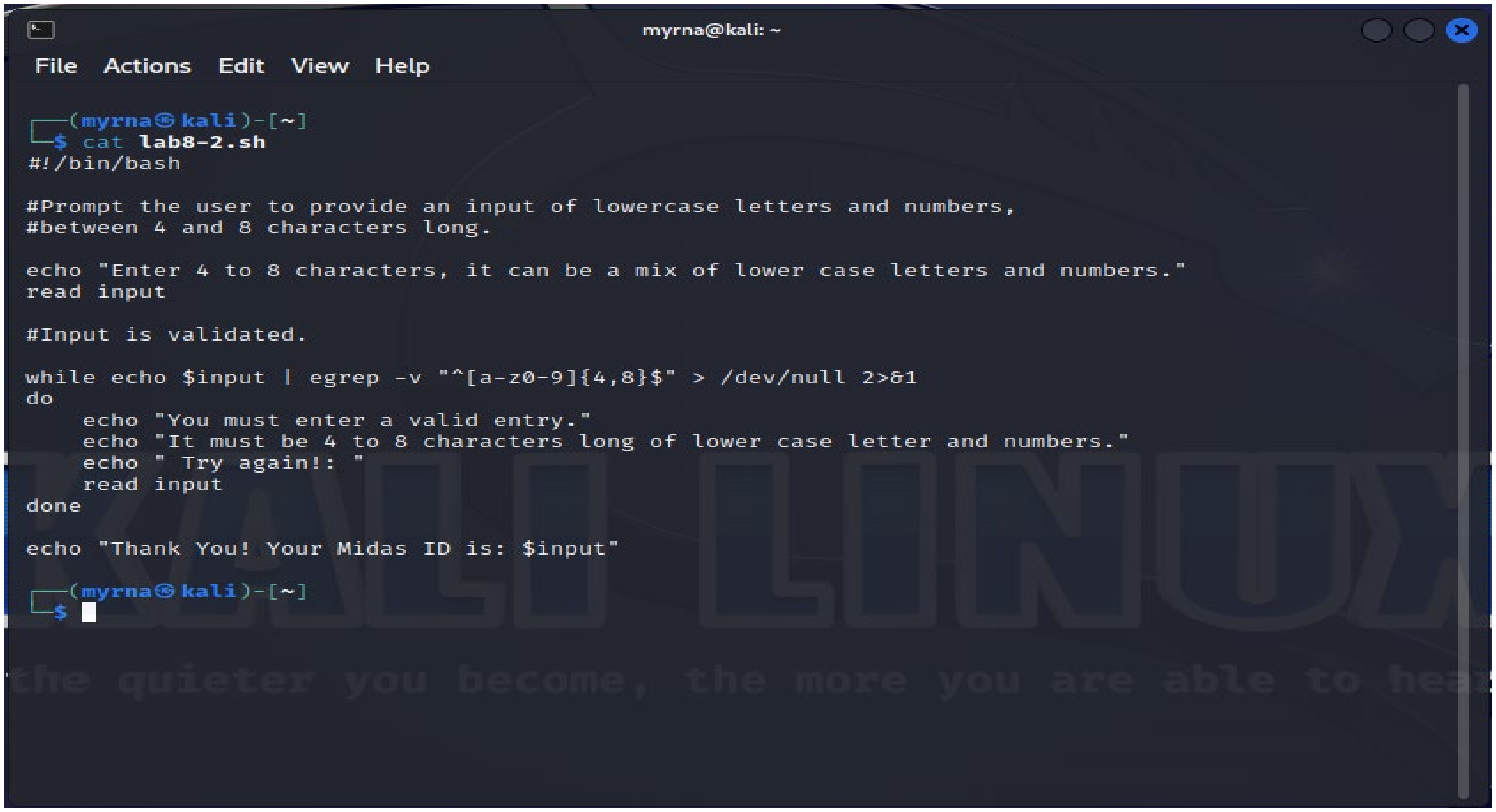
```
  GNU nano 7.2                              lab8-2.sh
#!/bin/bash

#Prompt the user to provide an input of lowercase letters and numbers,
#between 4 and 8 characters long.

echo "Enter 4 to 8 characters, it can be a mix of lower case letters and numbers."
read input

#Input is validated.

while echo $input | egrep -v "^[a-z0-9]{4,8}$" > /dev/null 2>&1
do
    echo "You must enter a valid entry."
    echo "It must be 4 to 8 characters long of lower case letter and numbers."
    echo " Try again!: "
    read input
done

echo "Thank You! Your Midas ID is: $input"

                                  [ Read 19 lines ]
^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo
```

Step 2: Using ls -l lab8-2.sh we verify the user rights to the file and we modified it using chmod a+x lab8-2.sh. Then we verify one more time that the changes took effect.



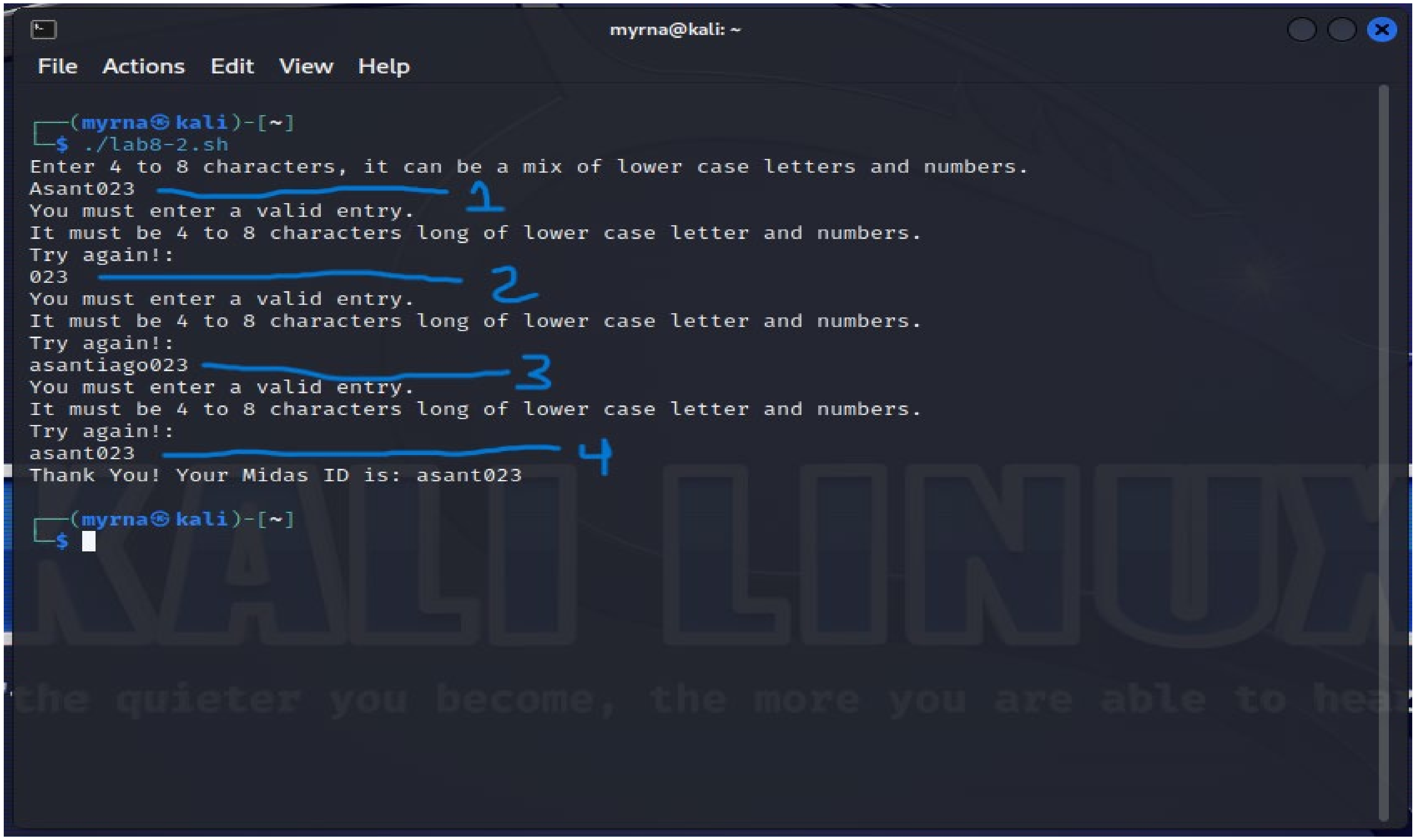
```
┌──(myrna㉿kali)-[~]
└─$ nano lab8-2.sh

┌──(myrna㉿kali)-[~]
└─$ ls -l lab8-2.sh
-rw-r--r-- 1 myrna myrna 465 Oct 31 19:39 lab8-2.sh

┌──(myrna㉿kali)-[~]
└─$ chmod a+x lab8-2.sh

┌──(myrna㉿kali)-[~]
└─$ ls -l lab8-2.sh
-rwxr-xr-x 1 myrna myrna 465 Oct 31 19:39 lab8-2.sh

┌──(myrna㉿kali)-[~]
└─$ 
```

Step 3: Using cat lab8-2.sh, we verify the content of the file.



```
┌──(myrna㉿kali)-[~]
└─$ cat lab8-2.sh
#!/bin/bash

#Prompt the user to provide an input of lowercase letters and numbers,
#between 4 and 8 characters long.

echo "Enter 4 to 8 characters, it can be a mix of lower case letters and numbers."
read input

#Input is validated.

while echo $input | egrep -v "^[a-z0-9]{4,8}$" > /dev/null 2>&1
do
    echo "You must enter a valid entry."
    echo "It must be 4 to 8 characters long of lower case letter and numbers."
    echo " Try again!: "
    read input
done

echo "Thank You! Your Midas ID is: $input"

┌──(myrna㉿kali)-[~]
└─$ 
```

Step 4: We test the program 4 times. First test we added an uppercase letter and the program correctly ask for a valid entry. The second test we added less than 4 digits, again the program asked for a valid entry. The third test we added more than 8 characters and the program one more time asked for a valid entry. Finally, we enter the correct number of characters with corresponding types and the program gave us a correct output.



```
┌──(myrna㉿kali)-[~]
└─$ ./lab8-2.sh
Enter 4 to 8 characters, it can be a mix of lower case letters and numbers.
Asant023
You must enter a valid entry.
It must be 4 to 8 characters long of lower case letter and numbers.
Try again!:
023
You must enter a valid entry.
It must be 4 to 8 characters long of lower case letter and numbers.
Try again!:
asantiago023
You must enter a valid entry.
It must be 4 to 8 characters long of lower case letter and numbers.
Try again!:
asant023
Thank You! Your Midas ID is: asant023

┌──(myrna㉿kali)-[~]
└─$ 
```