

Lab 2

BÁO CÁO BÀI THỰC HÀNH SỐ 2 LẬP TRÌNH TRONG MÔI TRƯỜNG SHELL

Môn học: Hệ điều hành (IT007)

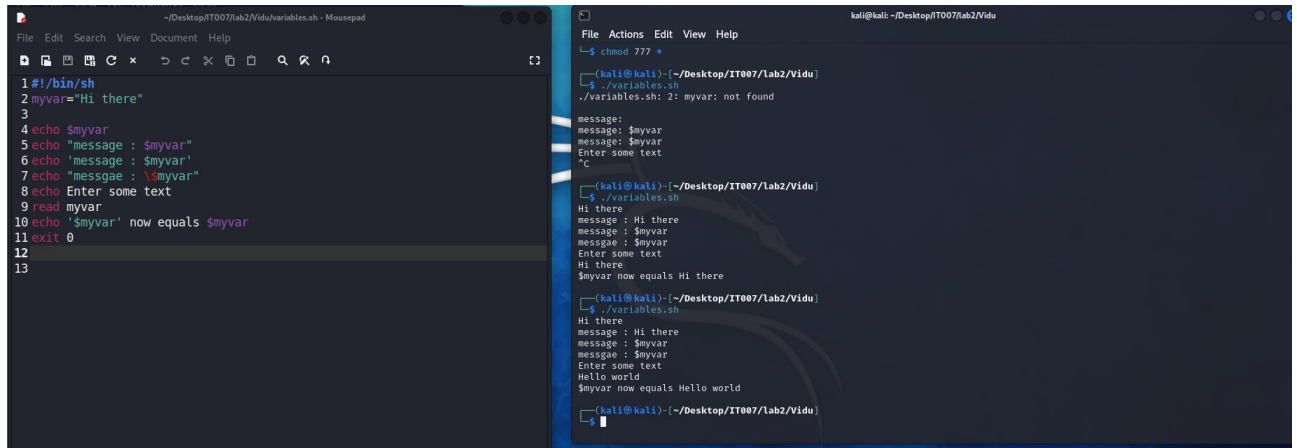
Sinh viên thực hiện	Nguyễn Đức Tấn
Thời gian thực hiện	

Lab 2: Lập trình trong môi trường Shell

THỰC HÀNH:

Bài 1: Chạy tất cả các đoạn lệnh ví dụ ở phần 2.4. Chụp hình kết quả chạy các file script và lưu vào báo cáo.

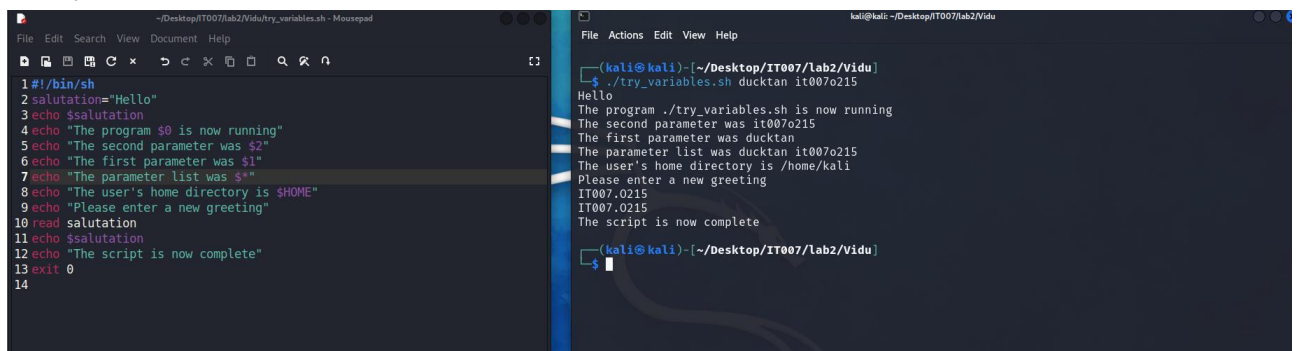
Ví dụ 2.1:



```
1#!/bin/sh
2myvar="Hi there"
3
4echo $myvar
5echo "message : $myvar"
6echo "message : $myvar"
7echo "message : \ $myvar"
8echo Enter some text
9read myvar
10echo '$myvar' now equals $myvar
11exit 0
12
13
```

```
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ chmod 777 ./variables.sh
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./variables.sh
message:
message: $myvar
message: $myvar
message: $myvar
Enter some text
Hi there
$myvar now equals Hi there
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./variables.sh
Hi there
message: Hi there
message: $myvar
message: $myvar
Enter some text
Hi there
$myvar now equals Hi there
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./variables.sh
Hi there
message: Hi there
message: $myvar
message: $myvar
Enter some text
Hello world
$myvar now equals Hello world
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$
```

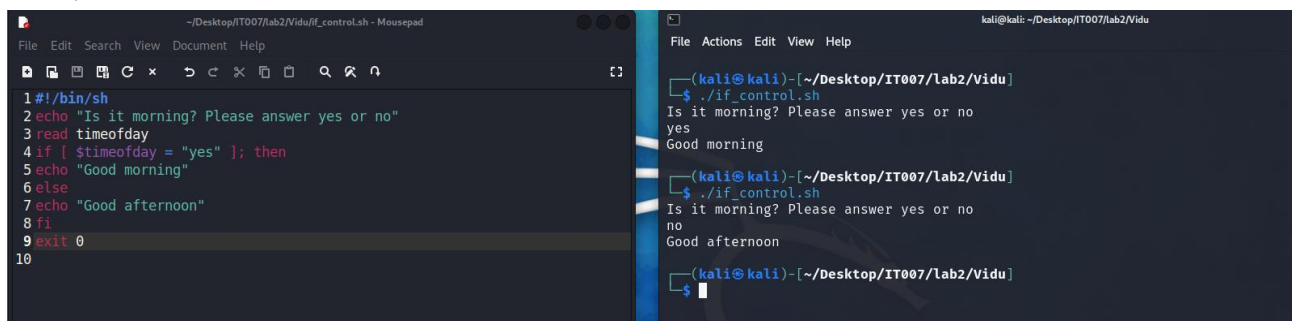
Ví dụ 2.2:



```
1#!/bin/sh
2salutation="Hello"
3echo $salutation
4echo "The program $0 is now running"
5echo "The second parameter was $2"
6echo "The first parameter was $1"
7echo "The parameter list was $@"
8echo "The user's home directory is $HOME"
9echo "Please enter a new greeting"
10read salutation
11echo $salutation
12echo "The script is now complete"
13exit 0
14
```

```
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./try_variables.sh ducktan it007o215
Hello
The program ./try_variables.sh is now running
The second parameter was it007o215
The first parameter was ducktan
The parameter list was ducktan it007o215
The user's home directory is /home/kali
Please enter a new greeting
it007.0215
it007.0215
The script is now complete
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$
```

Ví dụ 2.3:

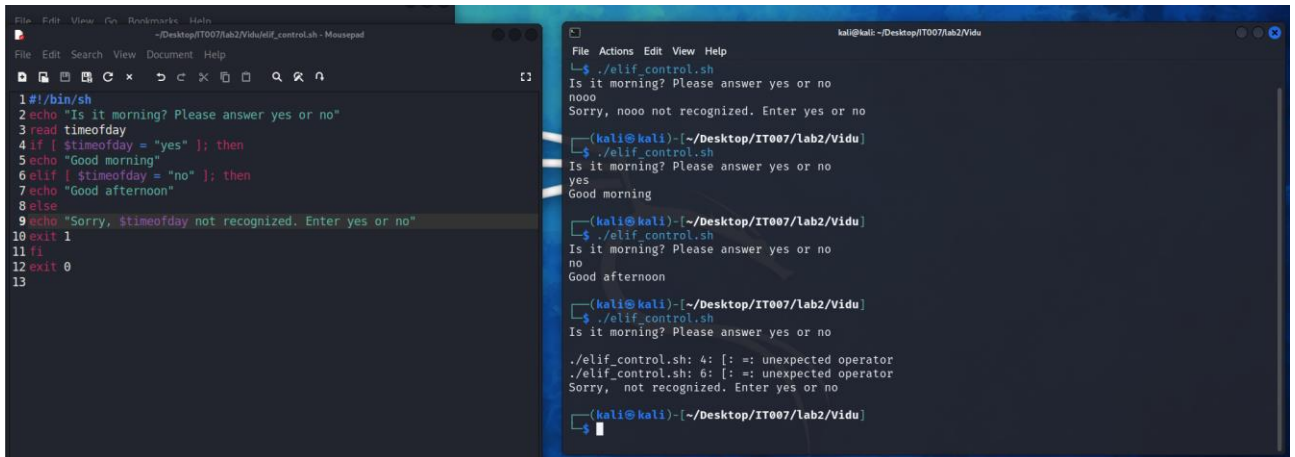


```
1#!/bin/sh
2echo "Is it morning? Please answer yes or no"
3read timeofday
4if [ $timeofday = "yes" ]; then
5echo "Good morning"
6else
7echo "Good afternoon"
8fi
9exit 0
10
```

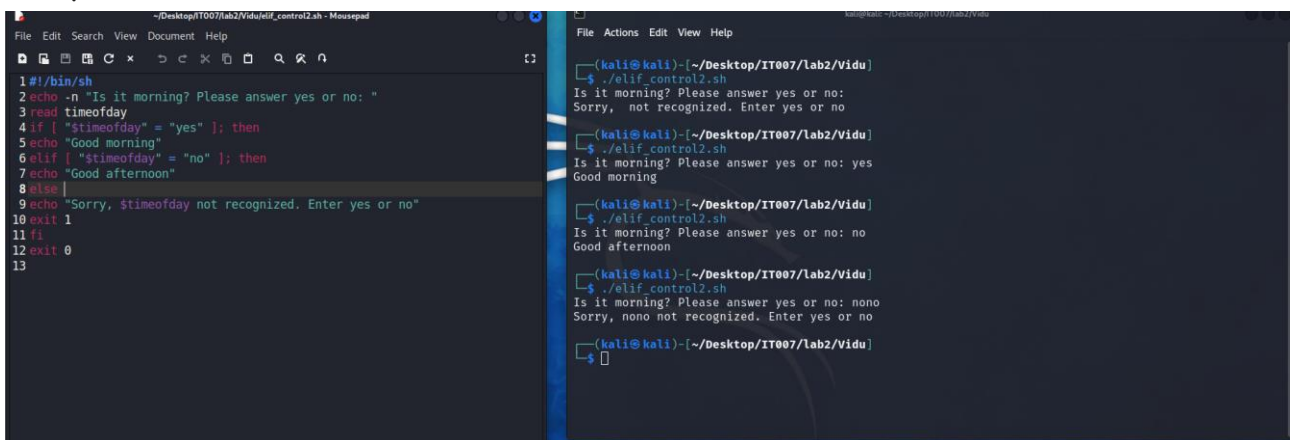
```
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./if_control.sh
Is it morning? Please answer yes or no
yes
Good morning
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$ ./if_control.sh
Is it morning? Please answer yes or no
no
Good afternoon
(kali@kali)-[~/Desktop/IT007/Lab2/Vidu]
$
```

Ví dụ 2.4:

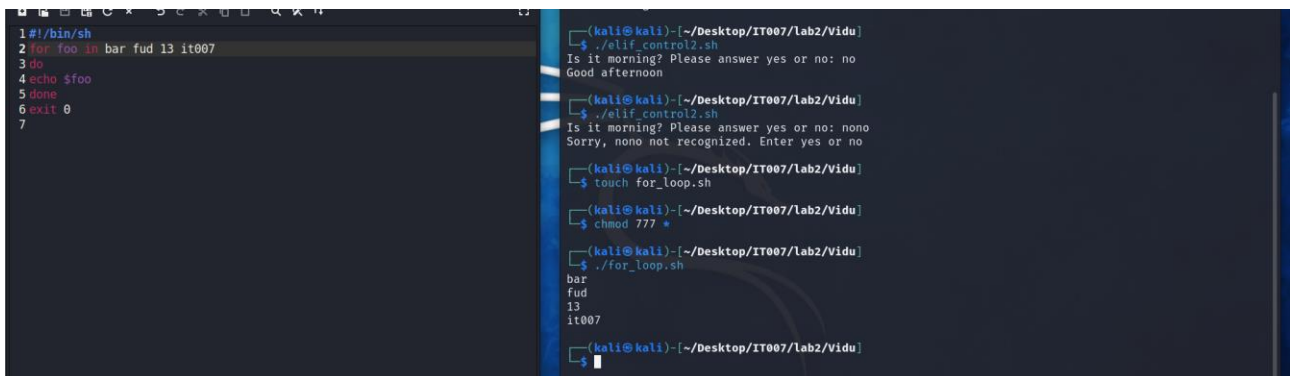
Lab 2: Lập trình trong môi trường Shell



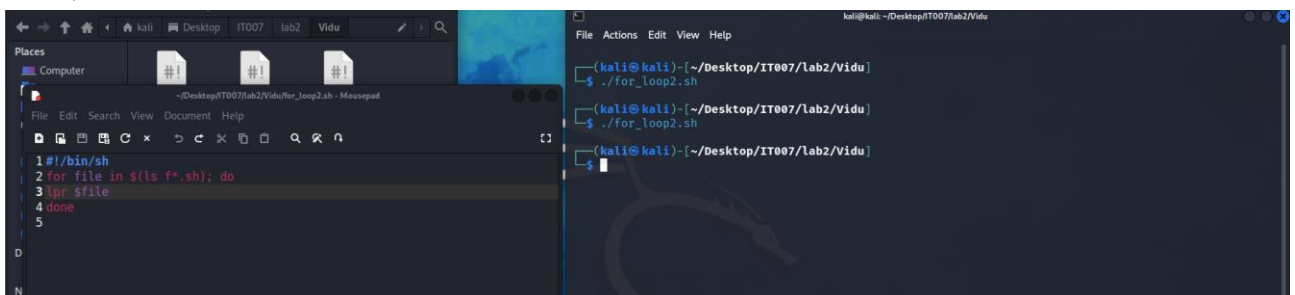
Ví dụ 2.5:



Ví dụ 2.6:



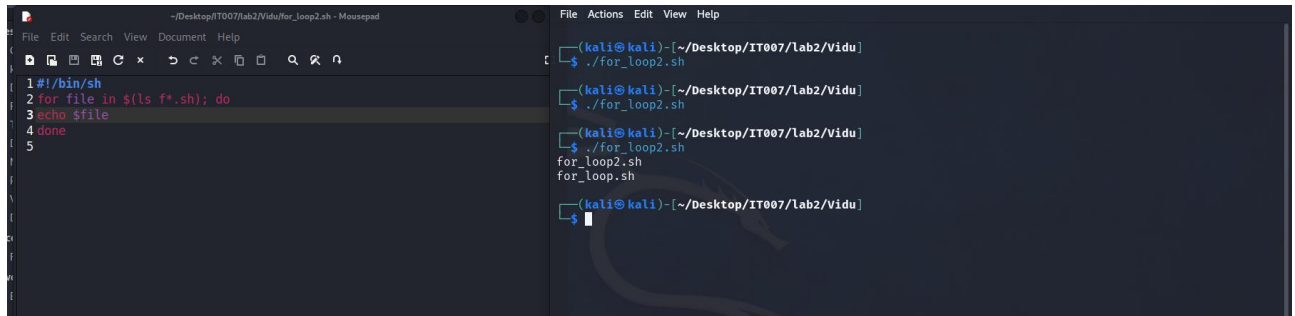
Ví dụ 2.7:



Lab 2: Lập trình trong môi trường Shell

Lỗi: lpr không in ra gì cả

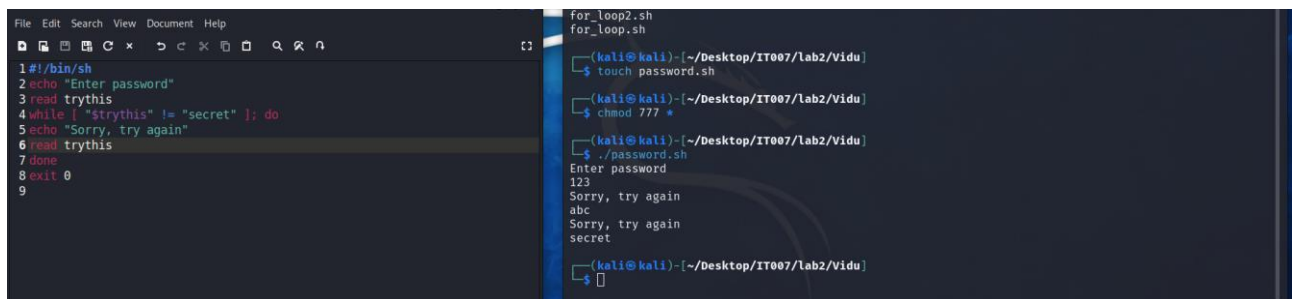
Sửa lpr --> echo



```
~/Desktop/IT007/lab2/Vidu/for_loop2.sh - Mousepad
File Edit Search View Document Help
1 #!/bin/sh
2 for file in $(ls f*.sh); do
3 echo $file
4 done
5

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./for_loop2.sh
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./for_loop2.sh
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./for_loop2.sh
for_loop2.sh
for_loop2.sh
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

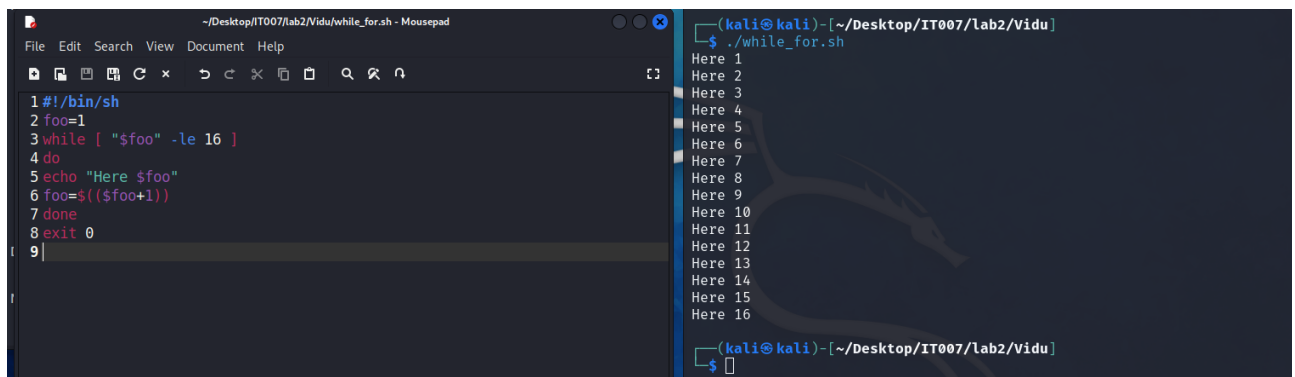
Ví dụ 2.8:



```
File Edit Search View Document Help
1 #!/bin/sh
2 echo "Enter password"
3 read trythis
4 while [ "$trythis" != "secret" ]; do
5 echo "Sorry, try again"
6 read trythis
7 done
8 exit 0
9

for_loop2.sh
for_loop.sh
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ touch password.sh
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ chmod 777 *
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./password.sh
Enter password
123
Sorry, try again
abc
Sorry, try again
secret
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

Ví dụ 2.9:

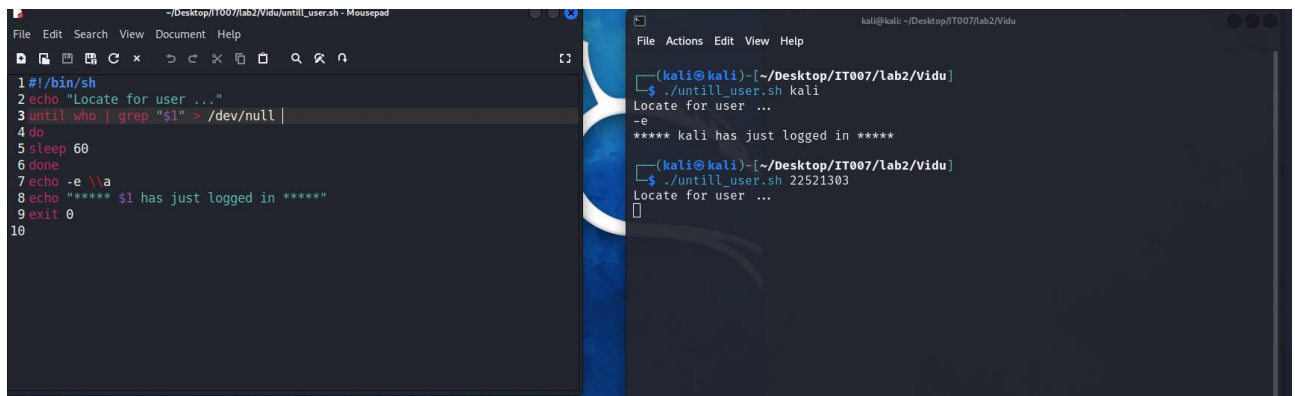


```
~/Desktop/IT007/lab2/Vidu/while_for.sh - Mousepad
File Edit Search View Document Help
1 #!/bin/sh
2 foo=1
3 while [ "$foo" -le 16 ]
4 do
5 echo "Here $foo"
6 foo=$((foo+1))
7 done
8 exit 0
9

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./while_for.sh
Here 1
Here 2
Here 3
Here 4
Here 5
Here 6
Here 7
Here 8
Here 9
Here 10
Here 11
Here 12
Here 13
Here 14
Here 15
Here 16
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

Ví dụ 2.10:

Lab 2: Lập trình trong môi trường Shell

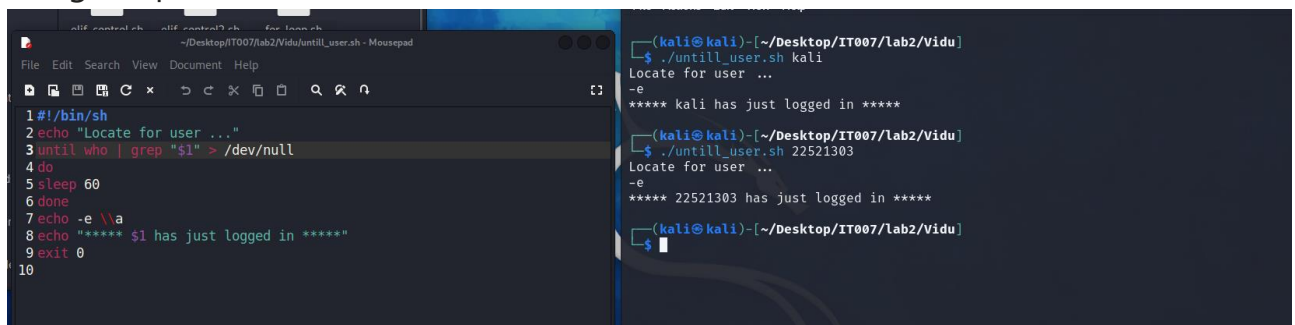


```
~/Desktop/IT007/lab2/Vidu/untill_user.sh - Mousepad
1#!/bin/sh
2echo "Locate for user ..."
3until who | grep "$1" > /dev/null
4do
5sleep 60
6done
7echo -e \n
8echo "***** $1 has just logged in *****"
9exit 0
10

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./untill_user.sh kali
Locate for user ...
-e
***** kali has just logged in *****

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./untill_user.sh 22521303
Locate for user ...
```

Đăng nhập user 22521303 vào:



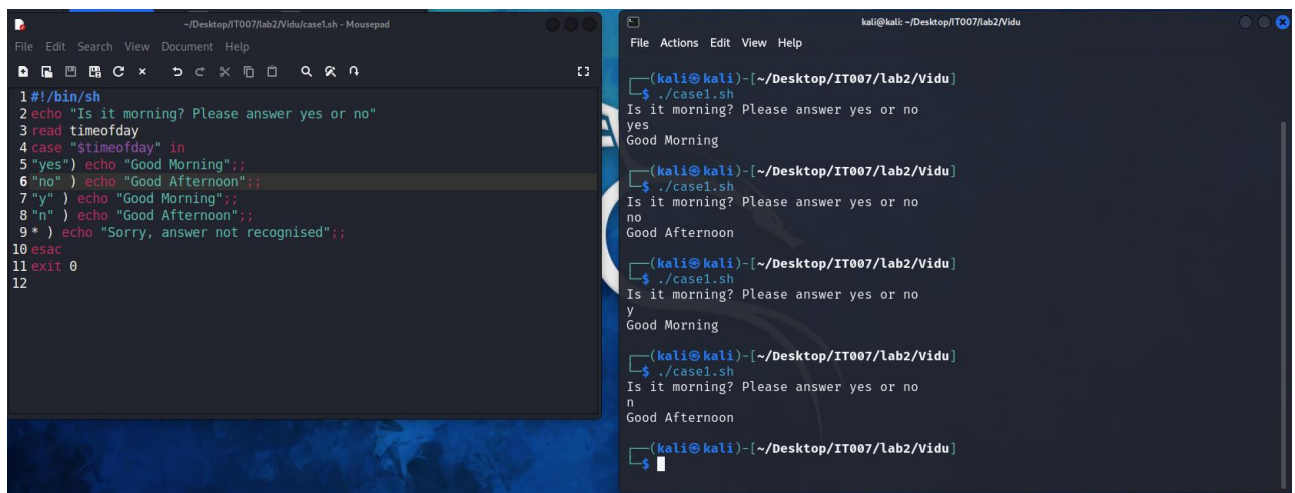
```
~/Desktop/IT007/lab2/Vidu/untill_user.sh - Mousepad
1#!/bin/sh
2echo "Locate for user ..."
3until who | grep "$1" > /dev/null
4do
5sleep 60
6done
7echo -e \n
8echo "***** $1 has just logged in *****"
9exit 0
10

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./untill_user.sh kali
Locate for user ...
-e
***** kali has just logged in *****

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./untill_user.sh 22521303
Locate for user ...
-e
***** 22521303 has just logged in *****

kali@kali: ~/Desktop/IT007/lab2/Vidu
$
```

Ví dụ 2.11:



```
~/Desktop/IT007/lab2/Vidu/case1.sh - Mousepad
1#!/bin/sh
2echo "Is it morning? Please answer yes or no"
3read timeofday
4case "$timeofday" in
5"yes") echo "Good Morning";;
6"no" ) echo "Good Afternoon";;
7"y" ) echo "Good Morning";;
8"n" ) echo "Good Afternoon";;
9* ) echo "Sorry, answer not recognised";;
10esac
11exit 0
12

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./case1.sh
Is it morning? Please answer yes or no
yes
Good Morning

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./case1.sh
Is it morning? Please answer yes or no
no
Good Afternoon

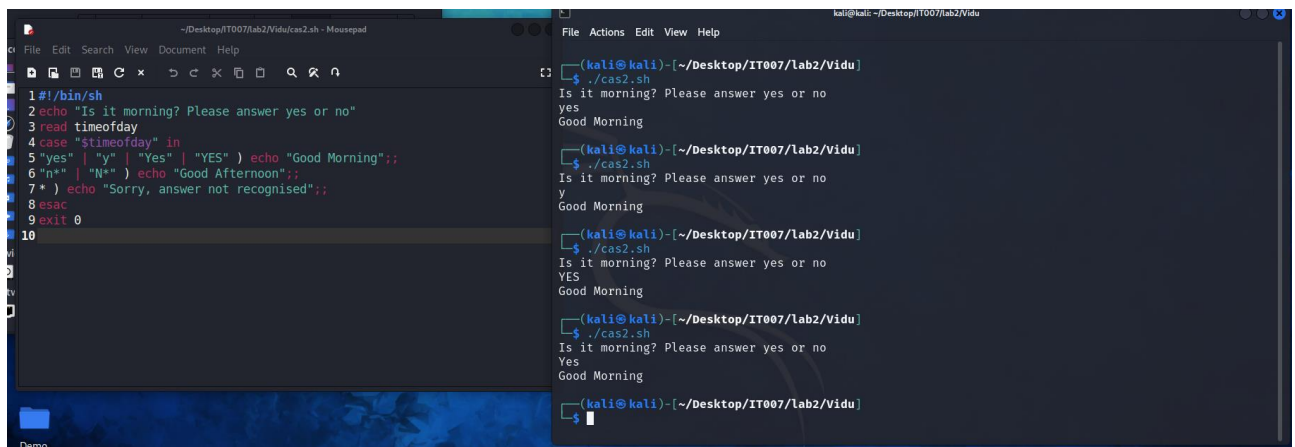
kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./case1.sh
Is it morning? Please answer yes or no
y
Good Morning

kali@kali: ~/Desktop/IT007/lab2/Vidu
$ ./case1.sh
Is it morning? Please answer yes or no
n
Good Afternoon

kali@kali: ~/Desktop/IT007/lab2/Vidu
$
```

Ví dụ 2.12:

Lab 2: Lập trình trong môi trường Shell



```
1#!/bin/sh
2echo "Is it morning? Please answer yes or no"
3read timeofday
4case "$timeofday" in
5"yes" | "y" | "Yes" | "YES" ) echo "Good Morning";;
6"n*" | "N*" ) echo "Good Afternoon";;
7* ) echo "Sorry, answer not recognised";;
8esac
9exit 0
10
```

```
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
yes
Good Morning

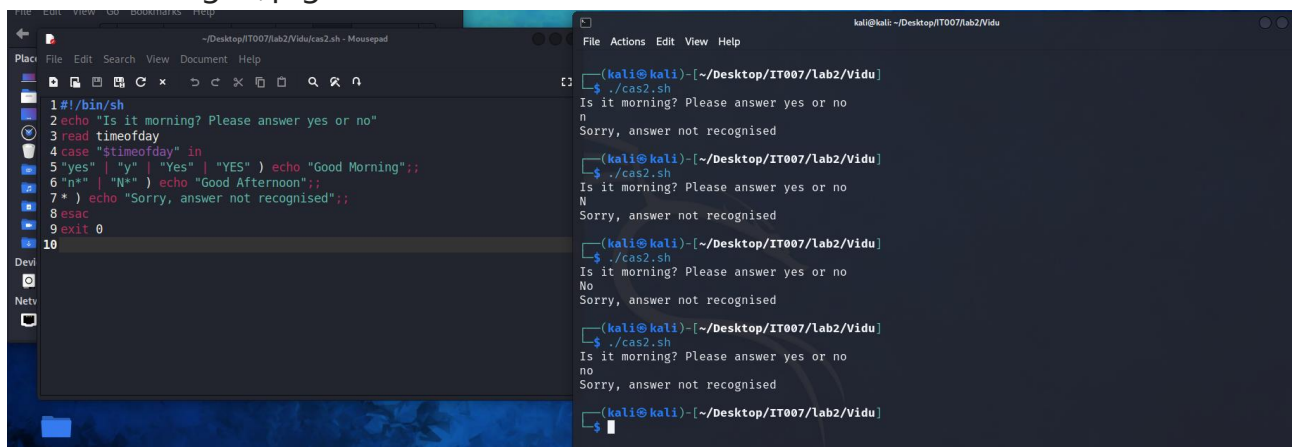
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
y
Good Morning

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
YES
Good Morning

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
Yes
Good Morning

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

Lỗi với trường hợp gõ "No":



```
1#!/bin/sh
2echo "Is it morning? Please answer yes or no"
3read timeofday
4case "$timeofday" in
5"yes" | "y" | "Yes" | "YES" ) echo "Good Morning";;
6"n*" | "N*" ) echo "Good Afternoon";;
7* ) echo "Sorry, answer not recognised";;
8esac
9exit 0
10
```

```
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
n
Sorry, answer not recognised

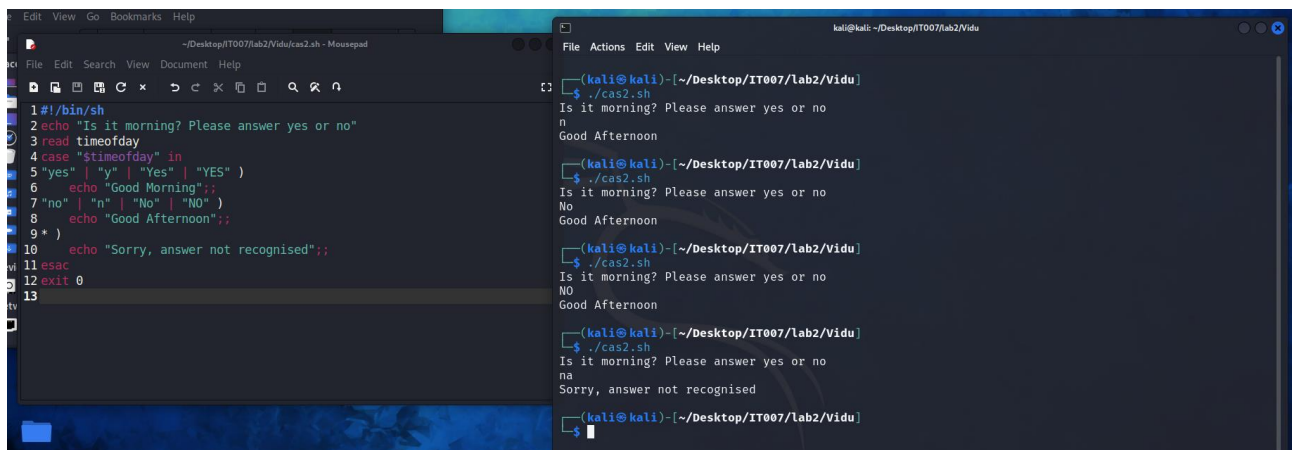
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
N
Sorry, answer not recognised

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
No
Sorry, answer not recognised

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
no
Sorry, answer not recognised

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

Sửa lỗi:



```
1#!/bin/sh
2echo "Is it morning? Please answer yes or no"
3read timeofday
4case "$timeofday" in
5"yes" | "y" | "Yes" | "YES" )
6    echo "Good Morning";;
7"no" | "n" | "No" | "NO" )
8    echo "Good Afternoon";;
9* )
10    echo "Sorry, answer not recognised";;
11esac
12exit 0
13
```

```
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
n
Good Afternoon

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
No
Good Afternoon

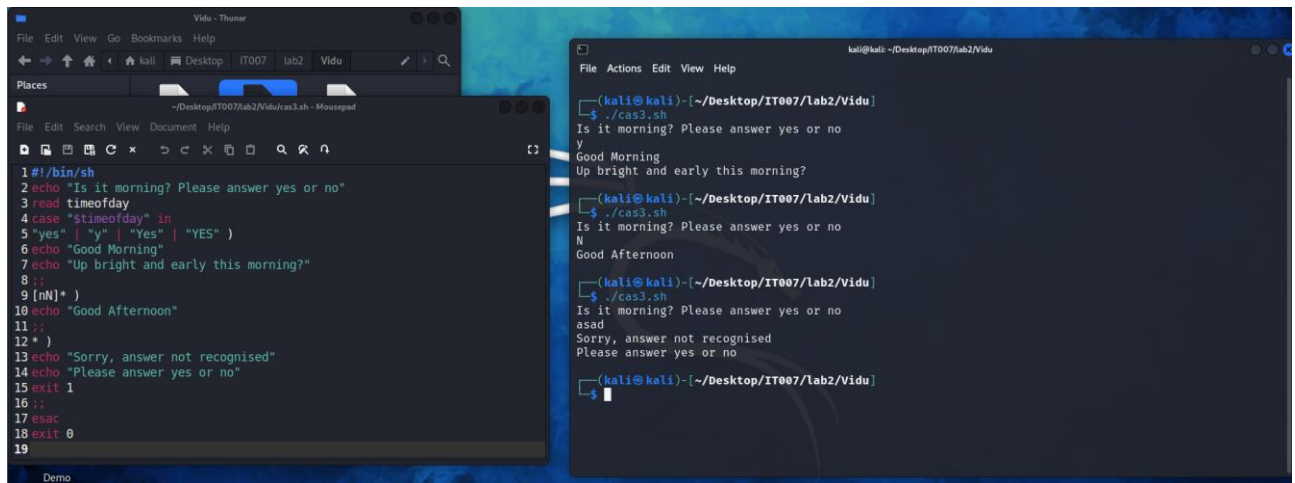
(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
NO
Good Afternoon

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$ ./cas2.sh
Is it morning? Please answer yes or no
na
Sorry, answer not recognised

(kali@kali)-[~/Desktop/IT007/lab2/Vidu]
$
```

Ví dụ 2.13:

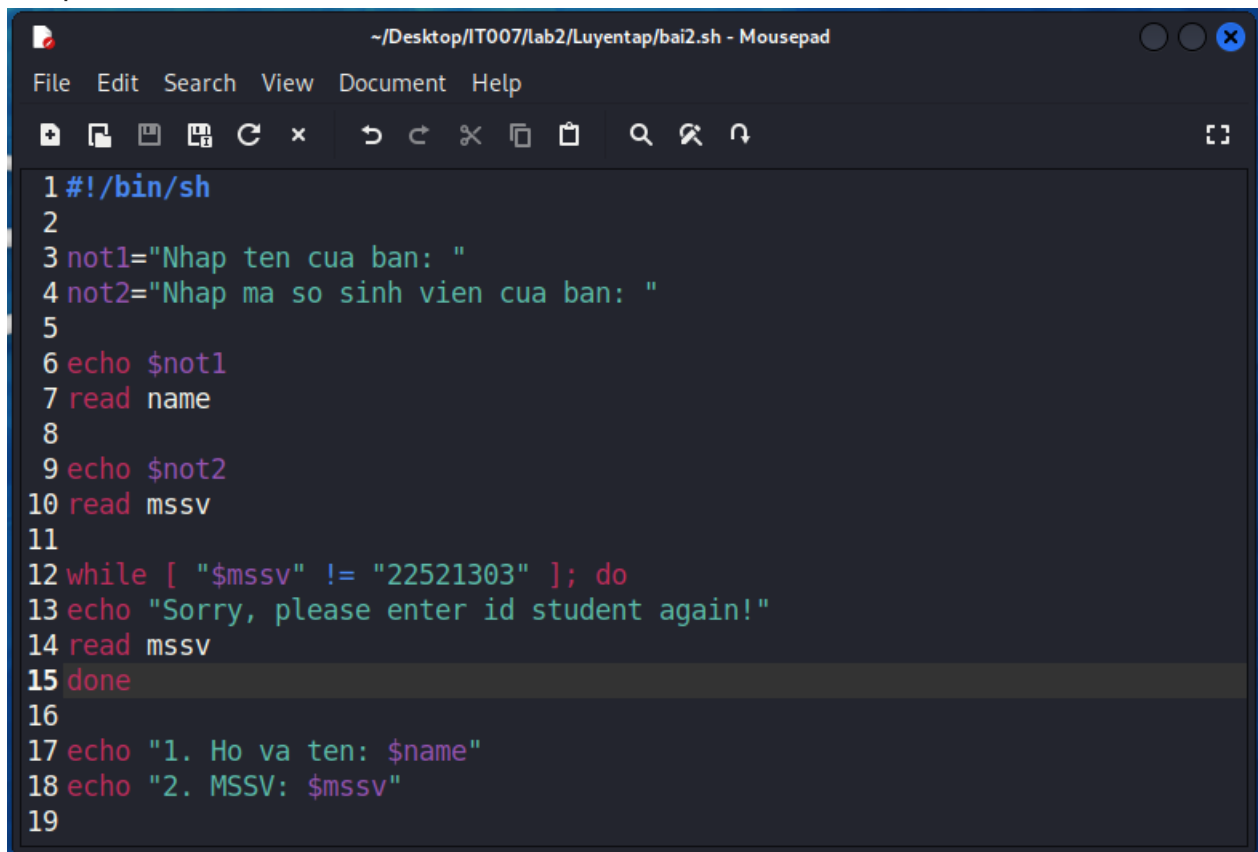
Lab 2: Lập trình trong môi trường Shell



```
#!/bin/sh
2 echo "Is it morning? Please answer yes or no"
3 read timeofday
4 case "$timeofday" in
5 "yes" | "y" | "Yes" | "YES" )
6 echo "Good Morning"
7 echo "Up bright and early this morning?"
8 ;;
9 [nN]* )
10 echo "Good Afternoon"
11 ;;
12 * )
13 echo "Sorry, answer not recognised"
14 echo "Please answer yes or no"
15 exit 1
16 ;;
17 esac
18 exit 0
19
```

Bài 2: Viết chương trình cho phép nhập vào tên và mssv. Kiểm tra nếu mssv đó không trùng với mình thì bắt nhập lại. In ra màn hình kết quả.

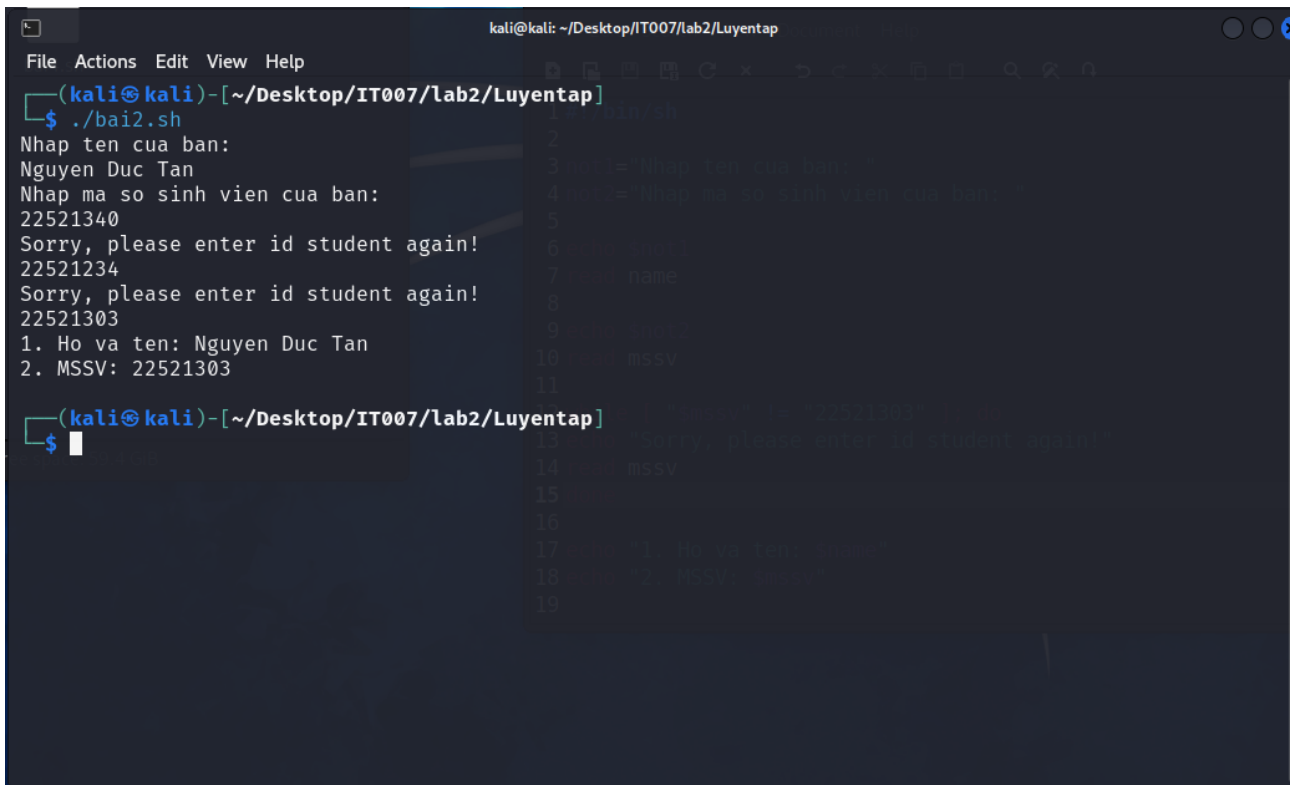
Script:



```
#!/bin/sh
2
3 not1="Nhập ten của bạn: "
4 not2="Nhập mã số sinh viên của bạn: "
5
6 echo $not1
7 read name
8
9 echo $not2
10 read mssv
11
12 while [ "$mssv" != "22521303" ]; do
13 echo "Sorry, please enter id student again!"
14 read mssv
15 done
16
17 echo "1. Họ và tên: $name"
18 echo "2. MSSV: $mssv"
19
```

Kết quả thực hiện:

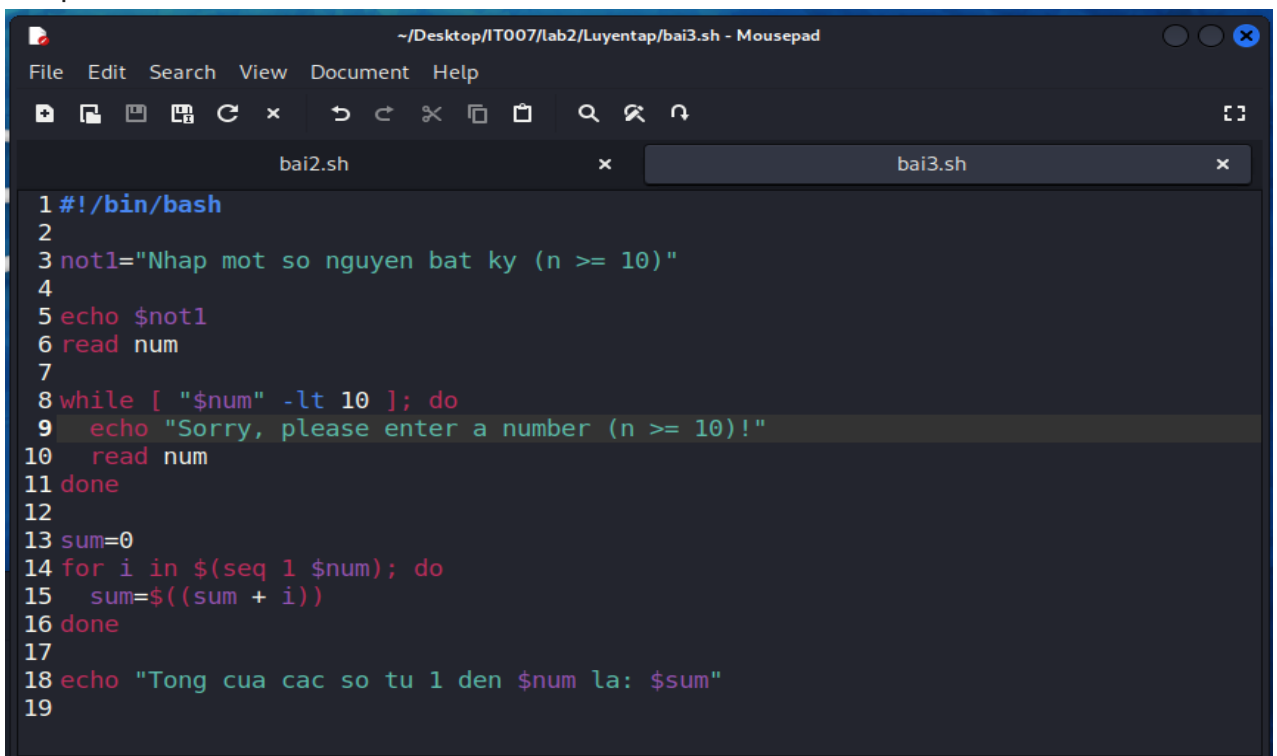
Lab 2: Lập trình trong môi trường Shell



```
kali@kali: ~/Desktop/IT007/lab2/Luyentap
File Actions Edit View Help
(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$ ./bai2.sh
Nhap ten cua ban:
Nguyen Duc Tan
Nhap ma so sinh vien cua ban:
22521340
Sorry, please enter id student again!
22521234
Sorry, please enter id student again!
22521303
1. Ho va ten: Nguyen Duc Tan
2. MSSV: 22521303
(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$
```

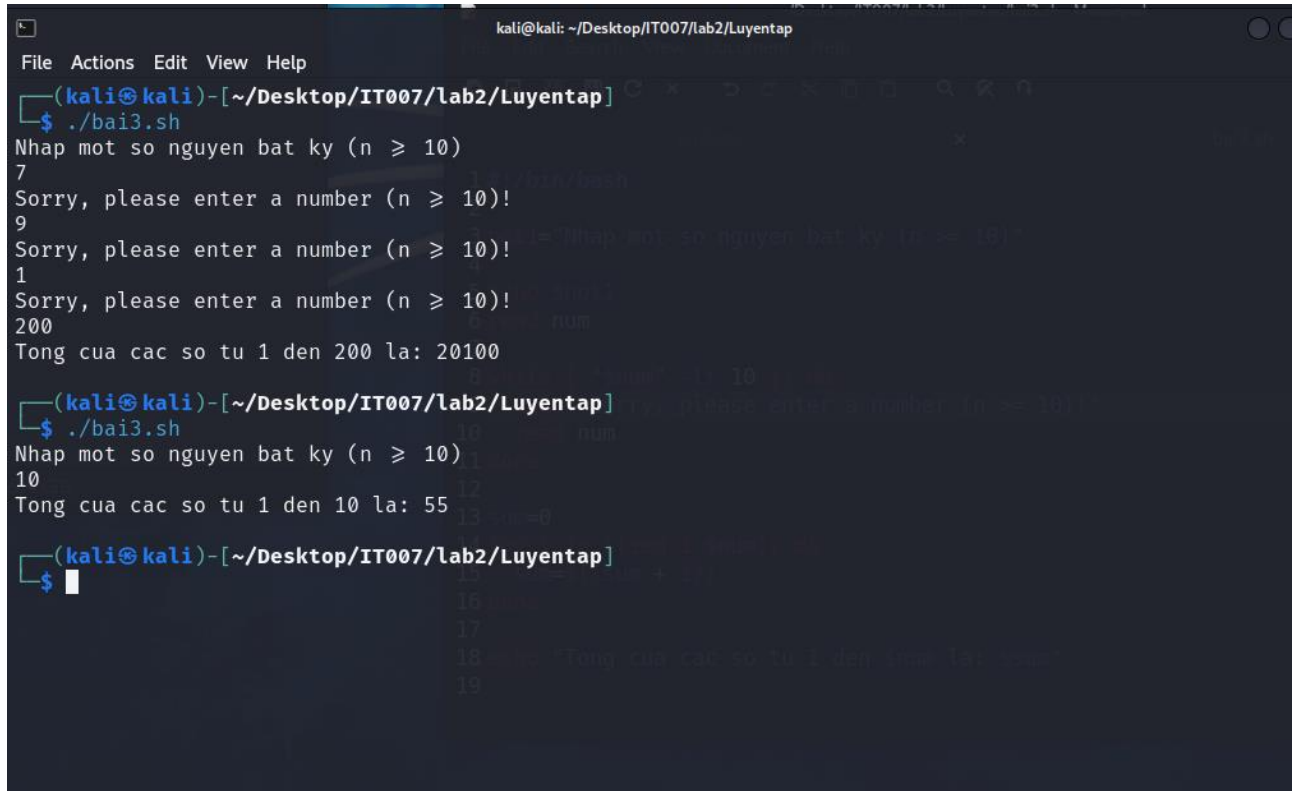
Bài 3: Viết chương trình cho phép nhập vào một số n. Kiểm tra nếu $n < 10$ thì bắt nhập lại. Tính tổng các số từ 1 đến n. In kết quả ra màn hình.

Script:



```
~/Desktop/IT007/lab2/Luyentap/bai3.sh - Mousepad
File Edit Search View Document Help
bai2.sh x bai3.sh x
1 #!/bin/bash
2
3 not1="Nhap mot so nguyen bat ky (n >= 10)"
4
5 echo $not1
6 read num
7
8 while [ "$num" -lt 10 ]; do
9     echo "Sorry, please enter a number (n >= 10)!"
10     read num
11 done
12
13 sum=0
14 for i in $(seq 1 $num); do
15     sum=$((sum + i))
16 done
17
18 echo "Tong cua cac so tu 1 den $num la: $sum"
19
```


Thực thi:



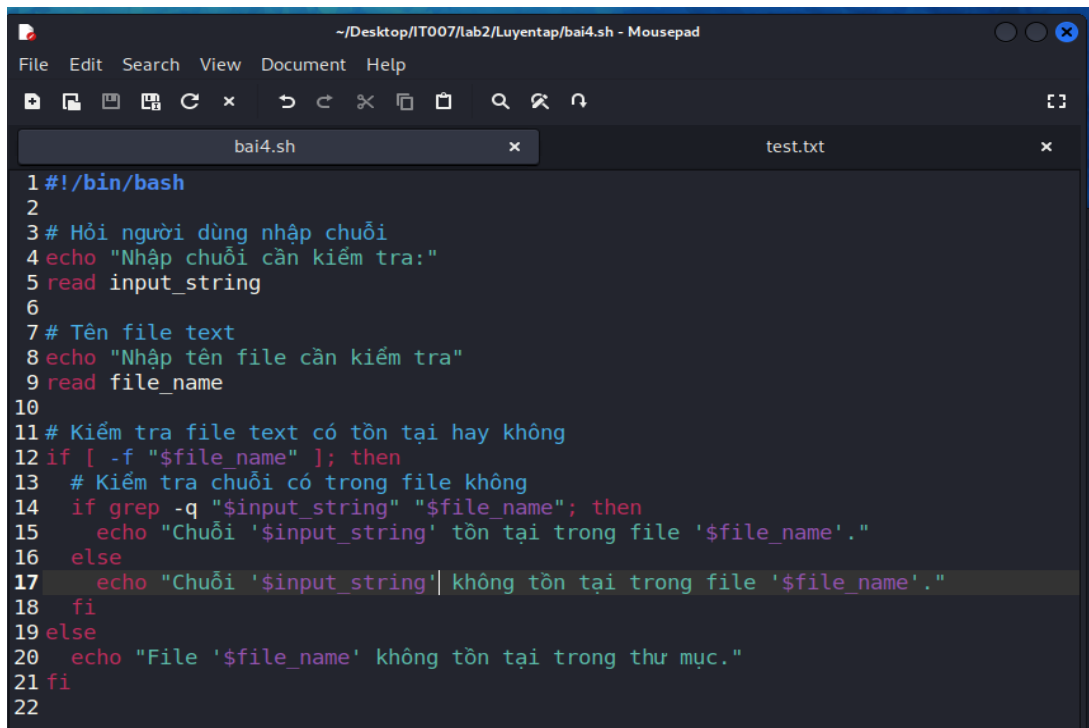
```
kali@kali: ~/Desktop/IT007/lab2/Luyentap
File Actions Edit View Help
(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$ ./bai3.sh
Nhap mot so nguyen bat ky (n ≥ 10)
7
Sorry, please enter a number (n ≥ 10)!
9
Sorry, please enter a number (n ≥ 10)!
1
Sorry, please enter a number (n ≥ 10)!
200
Tong cua cac so tu 1 den 200 la: 20100

(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$ ./bai3.sh
Nhap mot so nguyen bat ky (n ≥ 10)
10
Tong cua cac so tu 1 den 10 la: 55

(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$
```

Bài 4: Viết trình cho phép nhập vào một chuỗi. Kiểm tra chuỗi đó có tồn tại trong một file text (ví dụ test.txt) cùng thư mục hay không.

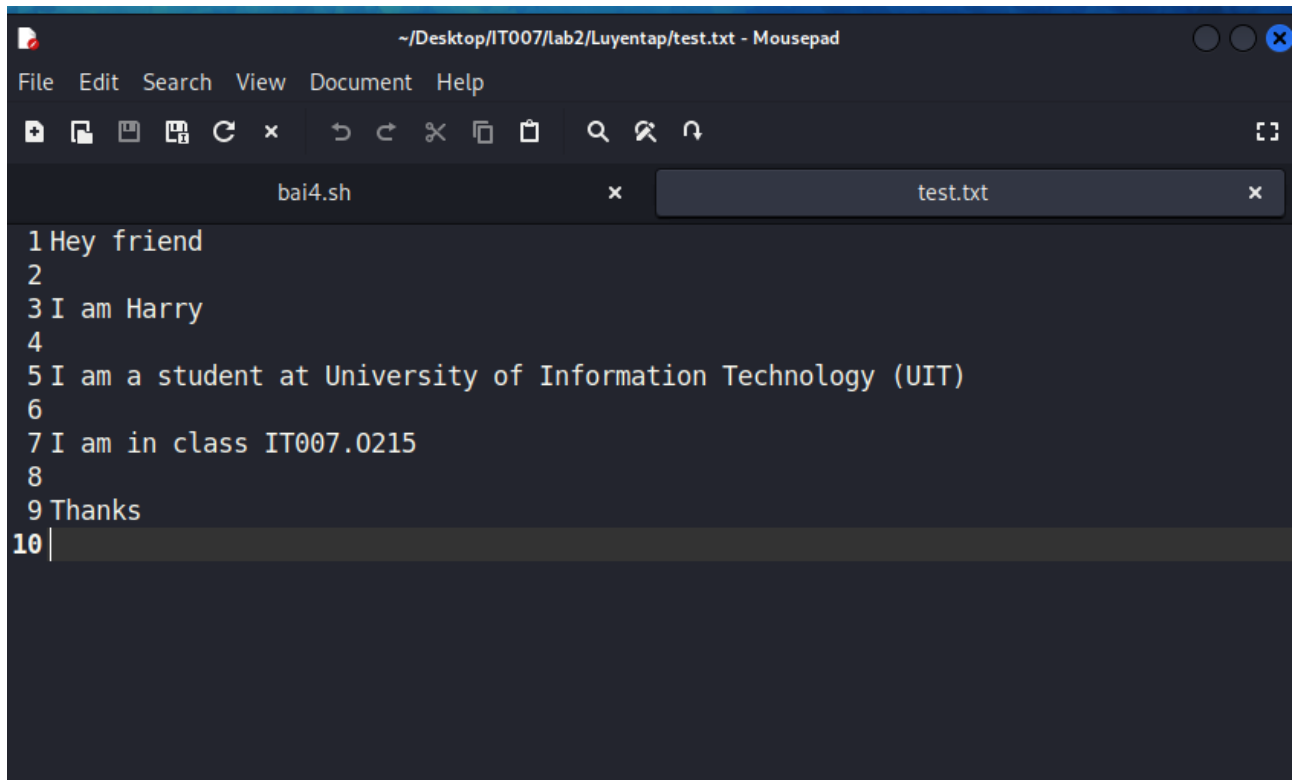
Script:



```
~/Desktop/IT007/lab2/Luyentap/bai4.sh - Mousepad
File Edit Search View Document Help
bai4.sh test.txt
1#!/bin/bash
2
3# Hỏi người dùng nhập chuỗi
4echo "Nhập chuỗi cần kiểm tra:"
5read input_string
6
7# Tên file text
8echo "Nhập tên file cần kiểm tra"
9read file_name
10
11# Kiểm tra file text có tồn tại hay không
12if [ -f "$file_name" ]; then
13    # Kiểm tra chuỗi có trong file không
14    if grep -q "$input_string" "$file_name"; then
15        echo "Chuỗi '$input_string' tồn tại trong file '$file_name'."
16    else
17        echo "Chuỗi '$input_string' không tồn tại trong file '$file_name'."
18    fi
19else
20    echo "File '$file_name' không tồn tại trong thư mục."
21fi
22
```

Lab 2: Lập trình trong môi trường Shell

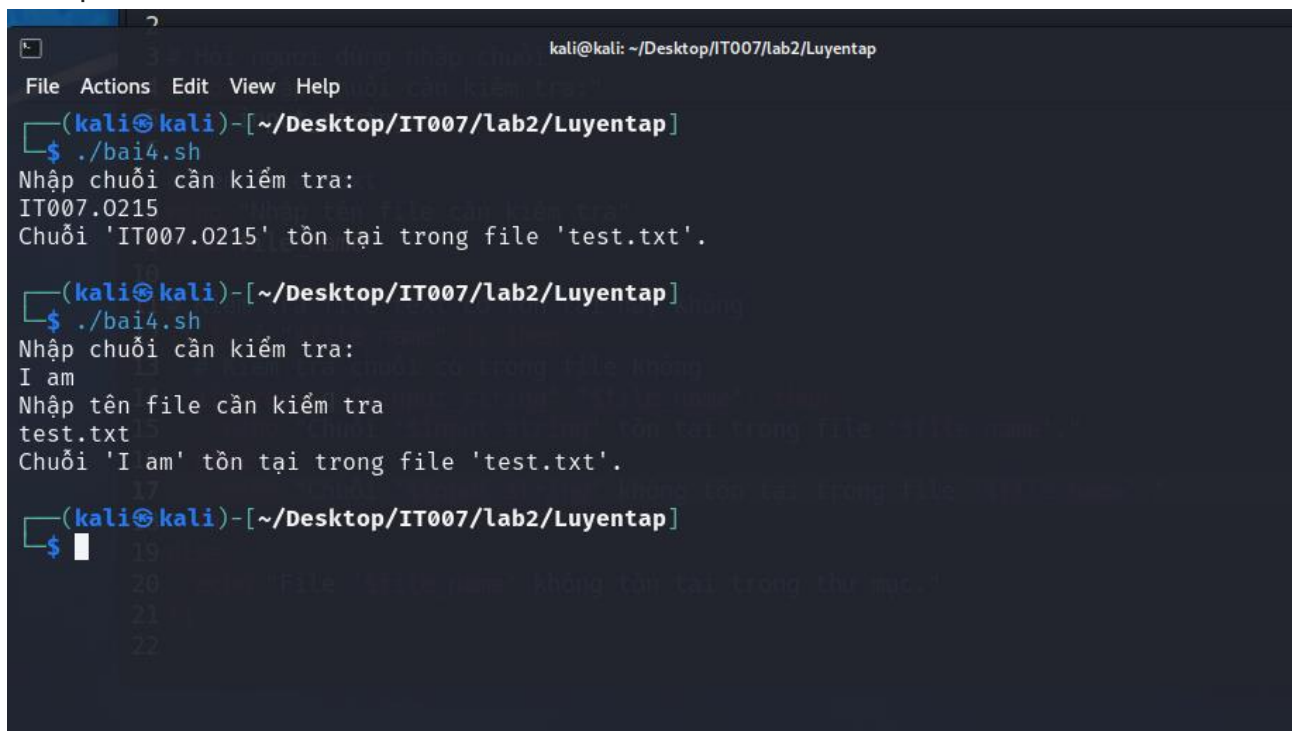
Test.txt:



The screenshot shows a text editor window titled `~/Desktop/IT007/lab2/Luyentap/test.txt - Mousepad`. The window has a menu bar with `File`, `Edit`, `Search`, `View`, `Document`, and `Help`. Below the menu bar is a toolbar with various icons. The editor has two tabs: `bai4.sh` and `test.txt`. The `test.txt` tab is active, showing the following text:

```
1 Hey friend
2
3 I am Harry
4
5 I am a student at University of Information Technology (UIT)
6
7 I am in class IT007.0215
8
9 Thanks
10 |
```

Kết quả:



The screenshot shows a terminal window with the prompt `kali@kali: ~/Desktop/IT007/lab2/Luyentap`. The terminal displays the following commands and output:

```
(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$ ./bai4.sh
Nhập chuỗi cần kiểm tra:
IT007.0215
Chuỗi 'IT007.0215' tồn tại trong file 'test.txt'.

(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$ ./bai4.sh
Nhập chuỗi cần kiểm tra:
I am
Nhập tên file cần kiểm tra:
test.txt
Chuỗi 'I am' tồn tại trong file 'test.txt'.

(kali@kali)-[~/Desktop/IT007/lab2/Luyentap]
$
```