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Lab2

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BÁO CÁO TÓM TẮT

Bài Lab2

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.

2.4.1.1 Điều khiển shell từ dòng lệnh

2.4.1.3 Thực thi script

2.4.2.1 Sử dụng biến

Sử dụng read:

2.4.2.2 Các ký tự đặc biệt (metacharacters của shell)
a. Chuyển hướng vào/ra

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ date > login.time
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat login.time
Sun May 26 10:32:17 PM +07 2024
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat < login.time
Sun May 26 10:32:17 PM +07 2024
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat  login.time < file
2
Sun May 26 10:32:17 PM +07 2024
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat << EOF
> xin chao
> Toi la DUY TAN
> UIT
> EOF
xin chao
Toi la DUY TAN
UIT
```

1. & (Ampersand):

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ $sort huge.file > sort
ed.file &
[1] 9874
```

2. Ngoặc đơn (;)

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ (date ; who) > system.
status
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat system.status
Sun May 26 11:26:39 PM +07 2024
tantd9    seat0        2024-05-26 15:07 (login screen)
tantd9    tty2         2024-05-26 15:07 (tty2)
```

3. Dấu nháy ` ` (backquotes)

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ echo Logged in `date`
> login.time
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat login.time
Logged in Sun May 26 11:32:39 PM +07 2024
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

4. Ống dẫn (Pipelines)

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ who |ls -l
total 24
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 22:52 badfile2
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 22:52 errfile
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 22:48 errfile2
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 23:20 huge.file
-rw-rw-r-- 1 tantd9 tantd9   15 May 26 23:47 login.time
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 21:51 myfolder
-rw-rw-r-- 1 tantd9 tantd9   47 May 26 22:26 second.sh
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 23:16 sorted
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 23:23 sorted.file
-rw-rw-r-- 1 tantd9 tantd9  132 May 26 23:26 system.status
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ (date ; who) | ls -l
total 24
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 22:52 badfile2
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 22:52 errfile
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 22:48 errfile2
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 23:20 huge.file
-rw-rw-r-- 1 tantd9 tantd9   15 May 26 23:47 login.time
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 21:51 myfolder
-rw-rw-r-- 1 tantd9 tantd9   47 May 26 22:26 second.sh
drwxrwxr-x 2 tantd9 tantd9 4096 May 26 23:16 sorted
-rw-rw-r-- 1 tantd9 tantd9    0 May 26 23:23 sorted.file
-rw-rw-r-- 1 tantd9 tantd9  132 May 26 23:26 system.status
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

c. Dấu bọc chuỗi (quoting)

Backslash (\ )

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat file1\&2
day la file 1 &2

tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ cat file1&2
[1] 10633
cat: file1: No such file or directory
2: command not found
[1]+  Exit 1                  cat file1
```

Các ví dụ khác về " " hay ' ':

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh variables.sh
Hi there
message : Hi there
message : $myvar
messgae : $myvar
Enter some text
tan
$myvar now equals tan
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

2.4.2.4 Biến tham số (parameter variable)

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ IFS="A"
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ set foo bar bam
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ echo "$@"
foo bar bam
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ echo "$*"
fooAbarAbam
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ unset IFS
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ echo "$*"
foo bar bam
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

Ví dụ 2-2: try_variables.sh

```sh
#!/bin/sh
salutation="Hello"
echo $salutation
echo "The program $0 is now running"
echo "The second parameter was $2"
echo "The first parameter was $1"
echo "The parameter list was $*"
echo "The user's home directory is $HOME"
echo "Please enter a new greeting"
read salutation
echo $salutation
echo "The script is now complete"
exit 0
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./try_variables.sh foo
 bar baz
Hello
The program ./try_variables.sh is now running
The second parameter was bar
The first parameter was foo
The parameter list was foo bar baz
The user's home directory is /home/tantd9
Please enter a new greeting
tantd9
tantd9
The script is now complete
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

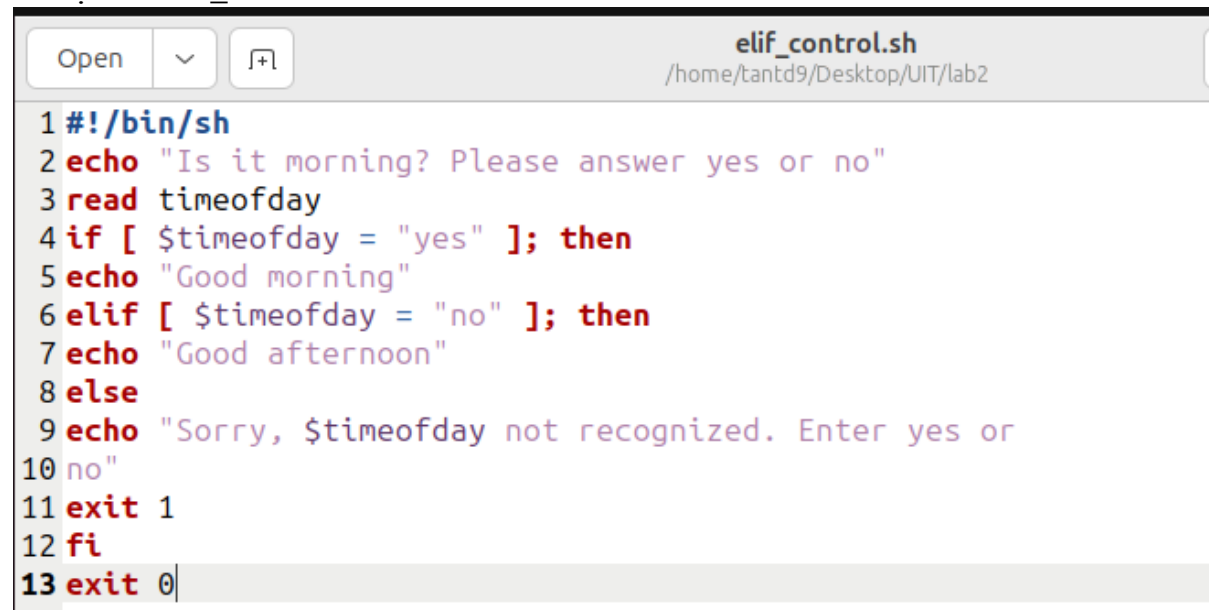## 2.4.3 Cấu trúc điều kiện
2.4.4.1 Lệnh if
Ví dụ 2-3: if_control.sh

```
1 #!/bin/sh
2 echo "Is it morning? Please answer yes or no"
3 read timeofday
4 #chú ý khoảng trắng trước sau [ và trước ]
5 if [ $timeofday = "yes" ]; then
6 echo "Good morning"
7 else
8 echo "Good afternoon"
9 fi
10 exit 0
```
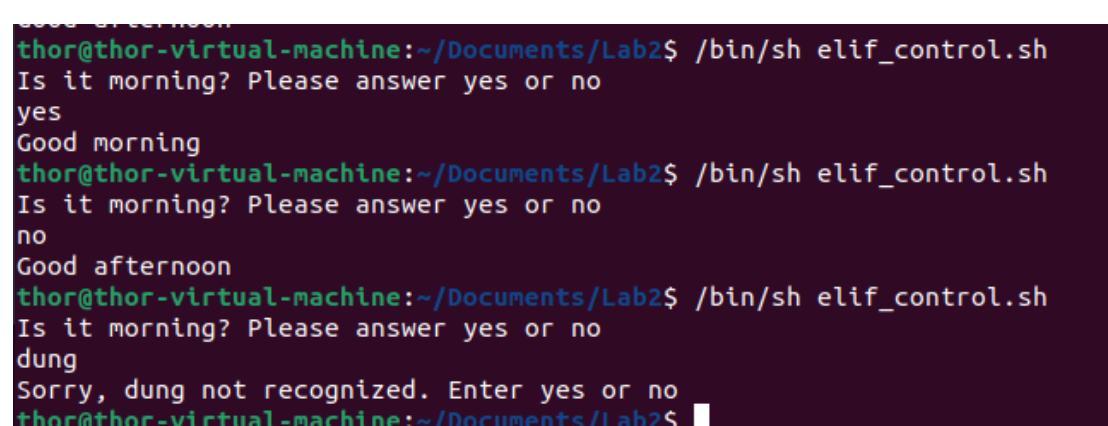
```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x if_control.sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./if_control.sh
Is it morning? Please answer yes or no
yes
Good morning
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

2.4.4.2 Lệnh elif
Ví dụ 2-4: elif_control.sh


```
#!/bin/sh
echo "Is it morning? Please answer yes or no"
read timeofday
if [ $timeofday = "yes" ]; then
echo "Good morning"
elif [ $timeofday = "no" ]; then
echo "Good afternoon"
else
echo "Sorry, $timeofday not recognized. Enter yes or
no"
exit 1
fi
exit 0
```



```
thor@thor-virtual-machine:~/Documents/Lab2$ /bin/sh elif_control.sh
Is it morning? Please answer yes or no
yes
Good morning
thor@thor-virtual-machine:~/Documents/Lab2$ /bin/sh elif_control.sh
Is it morning? Please answer yes or no
no
Good afternoon
thor@thor-virtual-machine:~/Documents/Lab2$ /bin/sh elif_control.sh
Is it morning? Please answer yes or no
dung
Sorry, dung not recognized. Enter yes or no
thor@thor-virtual-machine:~/Documents/Lab2$
```

Ví dụ 2-5: elif_control2.sh

```
*elif_control2.sh
/home/tantd9/Desktop/UIT/lab2

1 #!/bin/sh
2 echo -n "Is it morning? Please answer yes or no: "
3 read timeofday
4 if [ "$timeofday" = "yes" ]; then
5 echo "Good morning"
6 elif [ "$timeofday" = "no" ]; then
7 echo "Good afternoon"
8 else
9 echo "Sorry, $timeofday not recognized. Enter yes or no"
10 exit 1
11 fi
12 exit 0
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x elif_control.
sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./elif_control.sh
Is it morning? Please answer yes or no
yes
Good morning
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x elif_control.
sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./elif_control.sh
Is it morning? Please answer yes or no
sai
Sorry, sai not recognized. Enter yes or
no
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

2.4.4.4 Lệnh for
Ví dụ 2-6: for_loop.sh
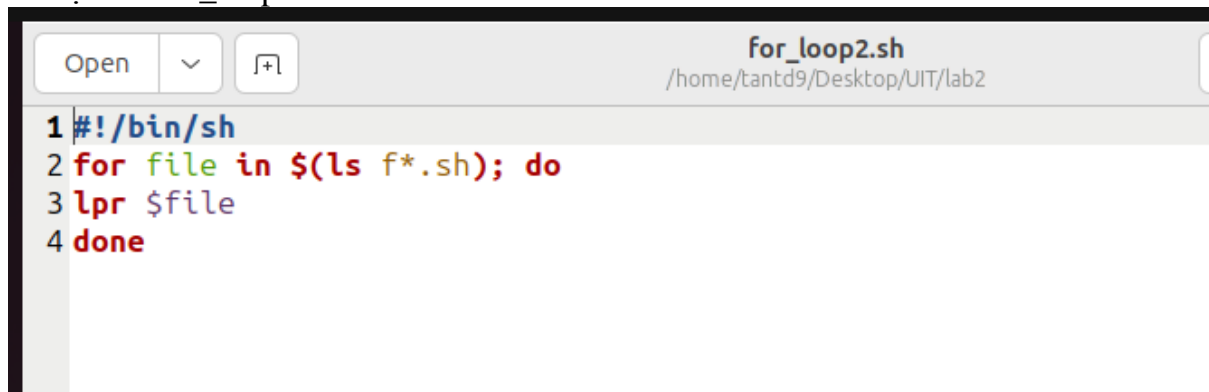
```
for_loop.sh
/home/tantd9/Desktop/UIT/lab2

1 #!/bin/sh
2 for foo in bar fud 13
3 do
4 echo $foo
5 done
6 exit 0
7
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x for_loop.sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./for_loop.sh
bar
fud
13
```

Ví dụ 2-7: for_loop2.sh

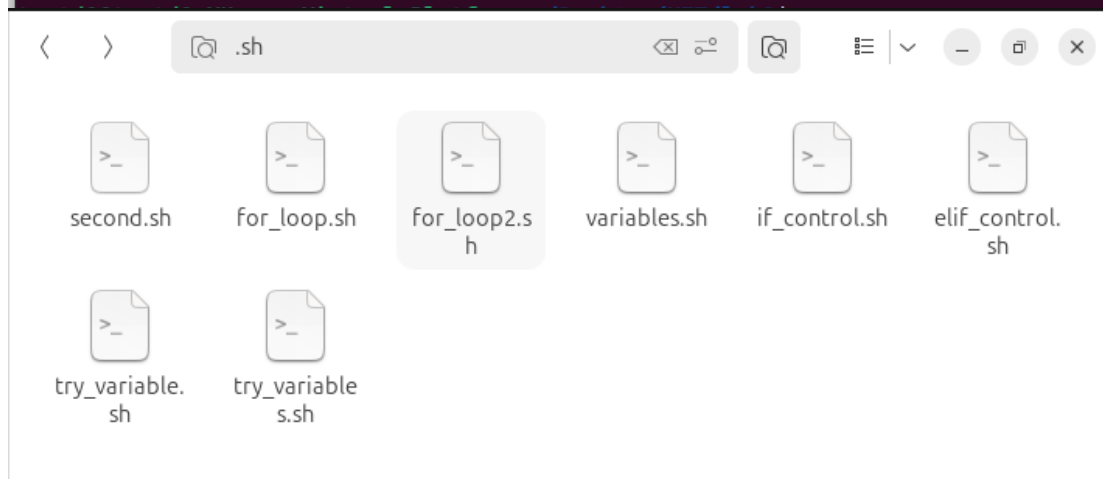**for_loop2.sh**
/home/tantd9/Desktop/UIT/lab2

```
1 #!/bin/sh
2 for file in $(ls f*.sh); do
3 lpr $file
4 done
```



```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x for_loop2.sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./for_loop2.sh
lpr: Error - No default destination.
lpr: Error - No default destination.
```


second.sh   for_loop.sh   for_loop2.sh   variables.sh   if_control.sh   elif_control.sh

try_variable.sh   try_variables.sh

2.4.4.5 Lệnh while
Ví dụ 2-8: password.sh

```sh
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
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x password.sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./password.sh
Enter password
tan
Sorry, try again
secert
Sorry, try again
secret
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

Ví dụ 2-9: while_for.sh

Open	∨	⊞	**while_for.sh** /home/tantd9/Desktop/UIT/lab2

```sh
1 #!/bin/sh
2 foo=1
3 while [ "$foo" -le 16 ]
4 do
5 echo "Here $foo"
6 foo=$(($foo+1))
7 done
8 exit 0
```
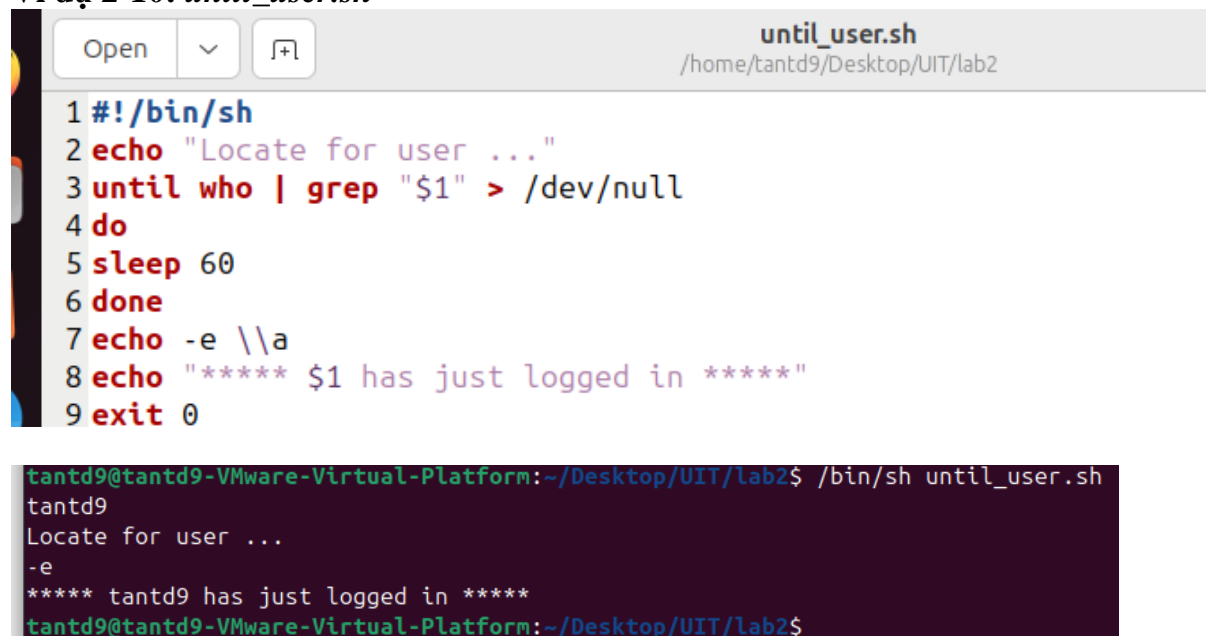
```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ chmod +x while_for.sh
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ ./while_for.sh
Here 1
Here 2
Here 3
Here 4
Here 5
Here 6
Here 7
Here 8
Here 9
Here 10
Here 11
Here 12
Here 13
Here 14
Here 15
Here 16
```

2.4.4.6 Lệnh until
Ví dụ 2-10: *until_user.sh*

```sh
#!/bin/sh
echo "Locate for user ..."
until who | grep "$1" > /dev/null
do
sleep 60
done
echo -e \\a
echo "***** $1 has just logged in *****"
exit 0
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh until_user.sh
tantd9
Locate for user ...
-e
***** tantd9 has just logged in *****
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

2.4.4.7 Lệnh *case*
Ví dụ 2-11: *case1.sh*

```
 1 #!/bin/sh
 2 echo "Is it morning? Please answer yes or no"
 3 read timeofday
 4 case "$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";;
10 esac
11 exit 0
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case1.sh
Is it morning? Please answer yes or no
yes
Good Morning
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case1.sh
Is it morning? Please answer yes or no
y
Good Morning
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case1.sh
Is it morning? Please answer yes or no
n
Good Afternoon
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case1.sh
Is it morning? Please answer yes or no
no
Good Afternoon
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

Ví dụ 2-12: *case2.sh*

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

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case2.sh
Is it morning? Please answer yes or no
yes
Good Morning
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case2.sh
Is it morning? Please answer yes or no
no
Good Afternoon
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case2.sh
Is it morning? Please answer yes or no
a
Sorry, answer not
recognised
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

Ví dụ 2-13 *case3.sh*


```
1 #!/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
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ bin/sh case3.sh
bash: bin/sh: No such file or directory
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case3.sh
Is it morning? Please answer yes or no
y
Good Morning
Up bright and early this morning?
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case3.sh
Is it morning? Please answer yes or no
no
Good Afternoon
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh case3.sh
Is it morning? Please answer yes or no
khong
Sorry, answer not recognised
Please answer yes or no
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

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.

```bash
1 #!/bin/bash
2
3 mssv="22550020"
4
5 until [ "$mssv" != "22550020" ]; do
6         read -p "Nhap mssv :" mssv
7
8         if [ "$mssv" = "22550020" ]; then
9                 echo "mssv bi trung vui long nhap lai!"
0         fi
1 done
2
3 echo "mssv la : $mssv"
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh  mssv.sh
Nhap mssv :22550020
mssv bi trung vui long nhap lai!
Nhap mssv :22550011
mssv la : 22550011
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

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.
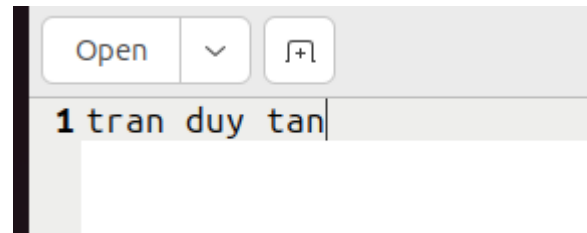
```bash
#!/bin/bash

n=0
sum=0

# Loop until the user enters a number greater than 10
while [ "$n" -le 10 ]; do
    read -p "Nhap so n: " n

    if [ "$n" -le 10 ]; then
        echo "Vui long nhap n > 10"
    fi
done

# Calculate the sum of numbers from 1 to n
for i in $(seq 1 $n); do
    sum=$((sum + i))
done

echo "Tong cac so la: $sum"
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh  bai3.sh
Nhap so n: 1
Vui long nhap n > 10
Nhap so n: 11
Tong cac so la: 66
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh  bai3.sh
Nhap so n: 10
Vui long nhap n > 10
Nhap so n: 10
Vui long nhap n > 10
Nhap so n: 15
Tong cac so la: 120
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

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.

File test.txt

```
Open    ∨    ⊞
  1 tran duy tan
```

.

```bash
1 #!/bin/bash
2
3
4 read -p "nhap so chuoi can phai kiem tra : " input
5
6 if grep -q "$input" test.txt; then
7         echo "chuoi nay  co ton tai trong file"
8 else
9         echo "chuoi nay khong ton tai trong file"
0 fi
1 exit 0
```

```
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh  bai4.sh
nhap so chuoi can phai kiem tra : tan
chuoi nay  co ton tai trong file
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$ /bin/sh  bai4.sh
nhap so chuoi can phai kiem tra : hihi
chuoi nay khong ton tai trong file
tantd9@tantd9-VMware-Virtual-Platform:~/Desktop/UIT/lab2$
```

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