

## Seif El-Din Mohamed Aboelhassan Hendawy

### Lab 2

1. Create a script that asks for user name then send a greeting to him.

Answer:

```
#!/usr/bin/bash

read -p "Enter Username: " x
echo "Hello, " $x "!"

[seif@localhost Files]$ ./lab2.sh
Enter Username: Seif
Hello,  Seif !
```

2. Create a script called s1 that calls another script s2 where:

a. In s1 there is a variable called x, it's value 5

Answer:

vi s1

```
#!/bin/bash
```

```
export x=5
```

```
./s2 $x
```

b. Try to print the value of x in s2 by two different ways.

Answer:

Vi s2

```
#!/bin/bash
```

```
echo "Method 1: The value of x is $x"
```

```
echo "Method 2: The value of x is $1"
```

```
chmod +x s1
```

```
chmod +x s2
```

```
[seif@localhost Downloads]$ ./s1
Method 1: The value of x is 5
Method 2: The value of x is 5
[seif@localhost Downloads]$
```

3. Create a script called mycp where:

```
#!/usr/bin/bash

#Q3
#a
#cp $1 $2

#b
cp $*
```

a. It copies a file to another

Answer:

```
[seif@localhost Files]$ nano mycp
[seif@localhost Files]$ mycp /etc/passwd ~/Files/
bash: mycp: command not found...
[seif@localhost Files]$ ./mycp /etc/passwd ~/Files/
bash: ./mycp: Permission denied
[seif@localhost Files]$ chmod +x mycp
[seif@localhost Files]$ ./mycp /etc/passwd ~/Files/
[seif@localhost Files]$ ls
day2.sh  group  lab2.sh  mycp  passwd
[seif@localhost Files]$
```

b. It copies multiple files to a directory.

Answer:

```
[seif@localhost Files]$ sudo ./mycp /etc/passwd /etc/group /etc/shadow ~/Files/
[sudo] password for seif:
[seif@localhost Files]$ ls
day2.sh  group  lab2.sh  mycp  passwd  shadow
[seif@localhost Files]$
```

4. Create a script called mycd where:

```
#!/usr/bin/bash

#Q4

echo "Number Of Arguments: " $#

if [ $# -eq 0 ]; then
    echo 'Changing Directory To Home'
    cd
    echo 'Directory Changed To Home'
else
    echo "Changing Directory To " $1
    cd $1
    echo "Directory Changed To " `pwd`
fi
```

- a. It changed directory to the user home directory, if it is called without arguments.
- b. Otherwise, it change directory to the given directory.

Answer:

```
[seif@localhost Files]$ . ./mycd
Number Of Arguments:  0
Changing Directory To Home
Directory Changed To Home
[seif@localhost ~]$ cd Files
[seif@localhost Files]$ . ./mycd /etc/
Number Of Arguments:  1
Changing Directory To  /etc/
Directory Changed To  `pwd`
[seif@localhost etc]$
```

5. Create a script called myls where:

```
#!/usr/bin/bash

#Q5

echo "Number Of Arguments: " $#

if [ $# -eq 0 ]; then
    echo 'Listing Current Directory'
    ls
else
    echo "listing " $1
    ls $1
fi
```

a. It lists the current directory, if it is called without arguments.

b. Otherwise, it lists the given directory.

Answer:

```
File Edit View Search Terminal Help
[seif@localhost Files]$ ./mysl
Number Of Arguments: 0
Listing Current Directory
day2.sh group lab2.sh mycd mycp myls passwd shadow
[seif@localhost Files]$ ./mysl ~
Number Of Arguments: 1
listing /home/seif
Desktop Documents Downloads Files Music Pictures Public Templates Videos
[seif@localhost Files]$
```

6. Enhance the above script to support the following options individually:

```
#!/usr/bin/bash

#Q6

echo "Number Of Arguments: " $#
echo "First Arg is " $1
echo "Second Arg is " $2

if [ $# -eq 0 ]; then
    ls
elif [ $# -ge 1 ]; then
    ls $*
fi
```

- a. -l: list in long format
- b. -a: list all entries including the hiding files.
- c. -d: if an argument is a directory, list only its name
- d. -i: print inode number
- e. -R: recursively list subdirectories

```
[seif@localhost Files]$ ./mys -l | sed -n '1,5p'
Number Of Arguments:  1
First Arg is  -l
Second Arg is
total 32
-rwxrwxr-x. 1 seif seif  754 Jul 26 10:10 day2.sh
[seif@localhost Files]$ ./mys -a | sed -n '1,6p'
Number Of Arguments:  1
First Arg is  -a
Second Arg is
.
..
day2.sh
[seif@localhost Files]$ ./mys -i | sed -n '1,5p'
Number Of Arguments:  1
First Arg is  -i
Second Arg is
3465884 day2.sh
3465890 group
[seif@localhost Files]$ ./mys -R | sed -n '1,5p'
Number Of Arguments:  1
First Arg is  -R
Second Arg is
.:
day2.sh
[seif@localhost Files]$ █

[seif@localhost Files]$ ./mys -d | sed -n '1,6p'
Number Of Arguments:  1
First Arg is  -d
Second Arg is
.
█
```

Bonus: enhance the above script to support the following Synopsis:

mysls -option1 -option2

mysls -option2 -option1

mysls -option1option2

mysls -option2option1

```
#!/usr/bin/bash
```

```
#Bonus
```

```
if [ $# -eq 0 ]; then
    ls
elif [ $# -ge 1 ]; then
    ls $*
fi
```

```
[seif@localhost Files]$ ./mysls -l -a | sed -n '1,5p'
total 36
drwxrwxr-x.  3 seif seif  125 Jul 26 12:26 .
drwx-----. 16 seif seif 4096 Jul 26 12:25 ..
-rwxrwxr-x.  1 seif seif  754 Jul 26 10:10 day2.sh
drwxrwxr-x.  2 seif seif    6 Jul 26 12:26 dir1
[seif@localhost Files]$ ./mysls -a -l | sed -n '1,5p'
total 36
drwxrwxr-x.  3 seif seif  125 Jul 26 12:26 .
drwx-----. 16 seif seif 4096 Jul 26 12:25 ..
-rwxrwxr-x.  1 seif seif  754 Jul 26 10:10 day2.sh
drwxrwxr-x.  2 seif seif    6 Jul 26 12:26 dir1
[seif@localhost Files]$ ./mysls -la | sed -n '1,5p'
total 36
drwxrwxr-x.  3 seif seif  125 Jul 26 12:26 .
drwx-----. 16 seif seif 4096 Jul 26 12:25 ..
-rwxrwxr-x.  1 seif seif  754 Jul 26 10:10 day2.sh
drwxrwxr-x.  2 seif seif    6 Jul 26 12:26 dir1
[seif@localhost Files]$ ./mysls -al | sed -n '1,5p'
total 36
drwxrwxr-x.  3 seif seif  125 Jul 26 12:26 .
drwx-----. 16 seif seif 4096 Jul 26 12:25 ..
-rwxrwxr-x.  1 seif seif  754 Jul 26 10:10 day2.sh
drwxrwxr-x.  2 seif seif    6 Jul 26 12:26 dir1
[seif@localhost Files]$
```

7. Create a script called mytest where:

```
#!/usr/bin/bash

#Q7

if [ -f "$1" ]; then
    echo "$1 is a File."
    ls -l $1 | awk '{print substr($1, 2)}';
elif [ -d "$1" ]; then
    echo "$1 is a Directory."
    ls -ld $1 | awk '{print substr($1, 2)}';
else
    echo "$1 does not exist or is not a file or a directory."
fi
```

- a. It check the type of the given argument (file/directory)
- b. It check the permissions of the given argument (read/write/execute)

Answer:

```
[seif@localhost Files]$ ./mytest dir1
dir1 is a Directory.
rwxrwxr-x.
[seif@localhost Files]$ ./mytest mycp
mycp is a File.
rwxrwxr-x.
[seif@localhost Files]$
```

8. Create a script called myinfo where:

- It asks the user about his/her logname.
- It print full info about files and directories in his/her home directory
- Copy his/her files and directories as much as you can in /tmp directory.
- Gets his current processes status.

```
#!/usr/bin/bash

#Q8

read -p "a) What is Your Name? " x
echo 'b) Print full info about files and directories in his/her home directory.'
ls -al /home/$x
echo 'c) Copy his/her files and directories as much as you can in /tmp directory.'
cp -r ~/* /tmp/
echo 'd) Get his current processes status.'
ps aux | grep $x
```

```
[seif@localhost Files]$ ./myinfo
a) What is Your Name? seif
b) Print full info about files and directories in his/her home directory.
total 48
drwx-----. 16 seif seif 4096 Jul 26 14:19 .
drwxr-xr-x.  4 root root  31 Jul 25 18:07 ..
-rw-----.  1 seif seif 4112 Jul 25 17:34 .bash_history
-rw-r--r--.  1 seif seif  18 Nov 24 2021 .bash_logout
-rw-r--r--.  1 seif seif 193 Nov 24 2021 .bash_profile
-rw-r--r--.  1 seif seif 231 Nov 24 2021 .bashrc
drwx-----. 20 seif seif 4096 Jul 22 17:21 .cache
drwxr-xr-x. 16 seif seif 4096 Jul 26 10:13 .config
drwx-----.  3 seif seif  25 Jul 21 13:11 .dbus
drwxr-xr-x.  2 seif seif   6 Jul 21 13:11 Desktop
drwxr-xr-x.  2 seif seif   6 Jul 21 13:11 Documents
drwxr-xr-x.  2 seif seif  64 Jul 25 18:40 Downloads
-rw-----.  1 seif seif  16 Jul 21 13:11 .esd_auth
drwxrwxr-x.  9 seif seif 166 Jul 26 14:19 Files
-rw-----.  1 seif seif 2170 Jul 26 09:36 .ICEauthority
```

```
[seif@localhost Files]$ sudo ./myinfo
a) What is Your Name? /
b) Print full info about files and directories in his/her home directory.
total 4
drwxr-xr-x.  4 root root  31 Jul 25 18:07 .
dr-xr-xr-x. 17 root root 236 Jul 21 15:11 ..
drwx-----.  5 m7med m7med 107 Jul 26 13:36 m7med
drwx-----. 16 seif seif 4096 Jul 26 14:19 seif
c) Copy his/her files and directories as much as you can in /tmp directory.
d) Get his current processes status.
root      1  0.2  0.1 202132 7080 ?        Ss   09:34   0:39 /usr/lib/systemd/systemd
switched-root --system --deserialize 22
root      4  0.0  0.0    0    0 ?        S<   09:34   0:00 [kworker/0:0H]
root      6  0.0  0.0    0    0 ?        S    09:34   0:04 [ksoftirqd/0]
```



```
[seif@localhost Files]$ sudo ./myinfo
```

```
a) What is Your Name? m7med
```

```
b) Print full info about files and directories in his/her home directory.
```

```
total 12
```

```
drwx-----. 5 m7med m7med 107 Jul 26 13:36 .
```

```
drwxr-xr-x. 4 root root 31 Jul 25 18:07 ..
```

```
-rw-r--r--. 1 m7med m7med 18 Nov 24 2021 .bash_logout
```

```
-rw-r--r--. 1 m7med m7med 193 Nov 24 2021 .bash_profile
```

```
-rw-r--r--. 1 m7med m7med 231 Nov 24 2021 .bashrc
```

```
drwxrwxr-x. 3 m7med m7med 18 Jul 26 13:35 .cache
```

```
drwxrwxr-x. 3 m7med m7med 18 Jul 26 13:35 .config
```

```
drwxr-xr-x. 4 m7med m7med 39 Jul 21 12:31 .mozilla
```

```
c) Copy his/her files and directories as much as you can in /tmp directory.
```

```
d) Get his current processes status.
```

```
root      21519  0.0  0.0 231952 3544 pts/0    S   13:35   0:00 su m7med
```

```
m7med     21520  0.0  0.0 116324 2900 pts/0    S   13:35   0:00 bash
```

```
root      25207  0.0  0.0 112808  956 pts/0    S+  14:26   0:00 grep m7med
```

```
[seif@localhost Files]$ █
```