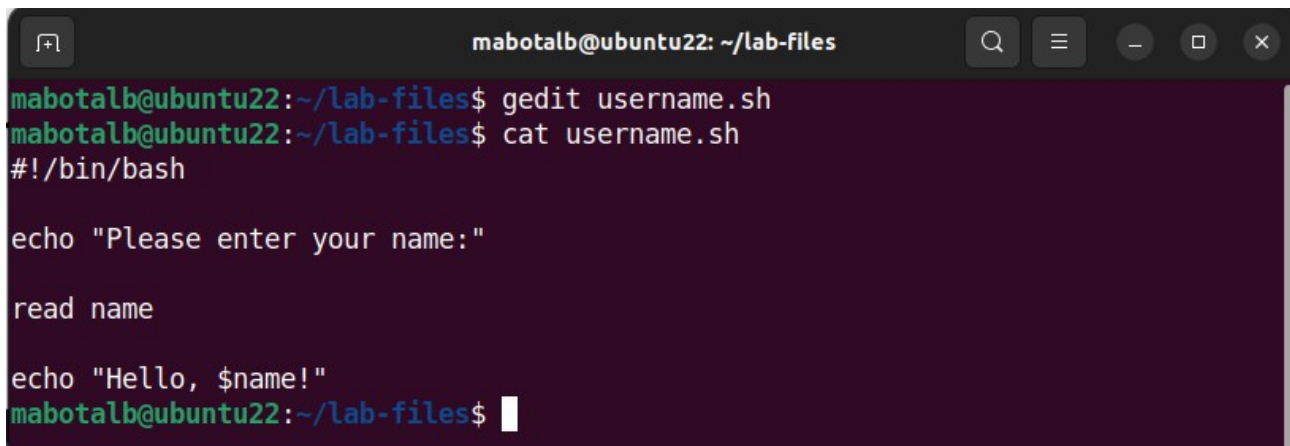


Shell Script – Day 2

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



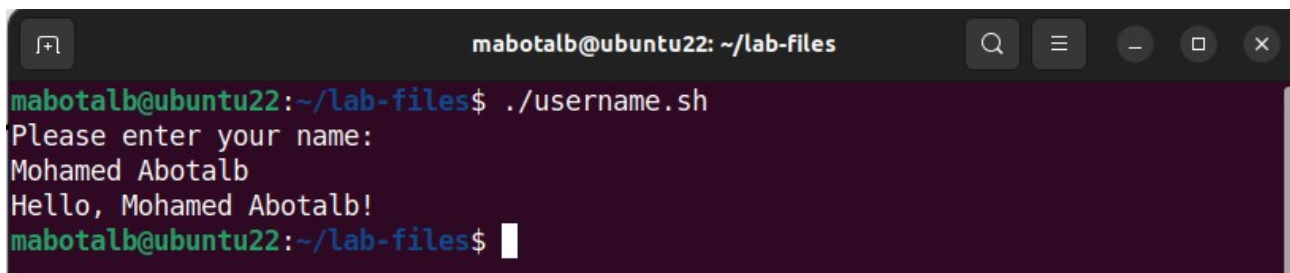
```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit username.sh
mabotalb@ubuntu22:~/lab-files$ cat username.sh
#!/bin/bash

echo "Please enter your name:"

read name

echo "Hello, $name!"
mabotalb@ubuntu22:~/lab-files$
```

The image shows a terminal window with a dark background. The title bar reads 'mabotalb@ubuntu22: ~/lab-files'. The user enters 'gedit username.sh' to create a new file. Then, they enter 'cat username.sh' to view the contents of the file. The file contains a shell script that prompts the user for their name and then greets them. The script is as follows:



```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ./username.sh
Please enter your name:
Mohamed Abotalb
Hello, Mohamed Abotalb!
mabotalb@ubuntu22:~/lab-files$
```

The image shows the same terminal window. The user enters './username.sh' to execute the script. The script prompts 'Please enter your name:', the user enters 'Mohamed Abotalb', and the script outputs 'Hello, Mohamed Abotalb!'. The prompt returns to the shell.

2. Create a script called s1 that calls another script s2 where:
- In s1 there is a variable called x, it's value 5
 - Try to print the value of x in s2 by two different ways.

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ cat s1.sh
#!/bin/bash

echo "Value of x from s1 = $x"
mabotalb@ubuntu22:~/lab-files$ cat s2.sh
#!/bin/bash

x=5

source ./s1.sh
mabotalb@ubuntu22:~/lab-files$ ./s2.sh
Value of x from s1 = 5
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ cat s1.sh
#!/bin/bash

echo "Value of x from s1 = $x"
mabotalb@ubuntu22:~/lab-files$ cat s2.sh
#!/bin/bash

export x=5

./s1.sh
mabotalb@ubuntu22:~/lab-files$ ./s2.sh
Value of x from s1 = 5
mabotalb@ubuntu22:~/lab-files$
```

3. Create a script called mycp where:

a. It copies a file to another

b. It copies multiple files to a directory.

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit mycp.sh
mabotalb@ubuntu22:~/lab-files$ cat mycp.sh
#!/bin/bash

if [ $# -eq 2 ]
then
    cp $1 $2
    echo "File is Copied"
fi

if [ $# -gt 2 ];
then
    dir="${!#}"
    cp "${@:1:$#-1}" "$dir" # $* is not worked
    echo "Files are Copied"
fi
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ echo "This is File 1" > file1.txt
mabotalb@ubuntu22:~/lab-files$ touch file2.txt
mabotalb@ubuntu22:~/lab-files$
mabotalb@ubuntu22:~/lab-files$ gedit mycp.sh
mabotalb@ubuntu22:~/lab-files$
mabotalb@ubuntu22:~/lab-files$ ./mycp.sh file1.txt file2.txt
File is Copied
mabotalb@ubuntu22:~/lab-files$
mabotalb@ubuntu22:~/lab-files$ cat file2.txt
This is File 1
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ls
enhanced-myls.sh  file2.txt  mycp.sh  myinfo.sh  mytest.sh  s1.sh  screens
file1.txt         mycd.sh   myDir    myls.sh    newDir     s2.sh  username.sh
mabotalb@ubuntu22:~/lab-files$ ./mycp.sh file1.txt file2.txt newDir
Files are Copied
mabotalb@ubuntu22:~/lab-files$ ls newDir/
file1.txt  file2.txt
mabotalb@ubuntu22:~/lab-files$
```

4. Create a script called mycd where:

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

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit mycd.sh
mabotalb@ubuntu22:~/lab-files$
mabotalb@ubuntu22:~/lab-files$ cat mycd.sh
#!/bin/bash

if [ $# -eq 0 ];
then
    cd ~
    echo "Changed to Home Directory: $HOME"
else
    cd "$1"
    echo "Changed to Directory: $1"
fi
mabotalb@ubuntu22:~/lab-files$
```

5. Create a script called myls where:

- It lists the current directory, if it is called without arguments.
- Otherwise, it lists the given directory.

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit myls.sh
mabotalb@ubuntu22:~/lab-files$ cat myls.sh
#!/bin/bash

if [ "$#" -eq 0 ];
then
    ls
else
    ls "$1"
fi

mabotalb@ubuntu22:~/lab-files$ ./mysls.sh
enhanced-myls.sh  mycd.sh  myinfo.sh  s1.sh  username.sh
file1.txt        mycp.sh  myls.sh    s2.sh
file2.txt        myDir    mytest.sh  screens
mabotalb@ubuntu22:~/lab-files$
```

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

- 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**


```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit enhanced-myls.sh
mabotalb@ubuntu22:~/lab-files$ cat enhanced-myls.sh
#!/bin/bash

if [ "$1" = "-l" ];
then
    echo "List in a Long Format"

elif [ "$1" = "-a" ];
then
    echo "List the Full Directory Content and the Hidden Files"

elif [ "$1" = "-d" ];
then
    echo "If an argument is a Directory, List only its Name"

elif [ "$1" = "-i" ];
then
    echo "Print the Inode Number"

elif [ "$1" = "-R" ];
then
    echo "Recursively List the Subdirectories"

else
    echo "You must pass an argument such as l, a, d, i or R"

fi
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -l
List in a Long Format
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -a
List the Full Directory Content and the Hidden Files
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -d
If an argument is a Directory, List only its Name
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -i
Print the Inode Number
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -R
Recursively List the Subdirectories
mabotalb@ubuntu22:~/lab-files$ ./enhanced-myls.sh -x
You must pass an argument such as l, a, d, i or R
mabotalb@ubuntu22:~/lab-files$
```

7. Create a script called mytest where:

a. It check the type of the given argument (file/directory)

b. It check the permissions of the given argument

(read/write/execute)

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ gedit mytest.sh
mabotalb@ubuntu22:~/lab-files$ cat mytest.sh
#!/bin/bash
if [ -f "$1" ];
then
    echo "$1 is a File"

elif [ -d "$1" ];
then
    echo "$1 is a Directory"

else
    echo "Unknown type"
fi

# Check the Permission of the argument

if [ -r "$1" ];
then
    echo "$1 is Readable"
fi

if [ -w "$1" ]
then
    echo "$1 is Writable"
fi

if [ -x "$1" ]
then
    echo "$1 is Executable"
fi
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ./mytest.sh myDir
myDir is a Directory
myDir is Readable
myDir is Writable
myDir is Executable
mabotalb@ubuntu22:~/lab-files$ ./mytest.sh file1.txt
file1.txt is a File
file1.txt is Readable
file1.txt is Writable
mabotalb@ubuntu22:~/lab-files$
```

8. Create a script called myinfo where:

a. It asks the user about his/her logname.

b. It print full info about files and directories in his/her home directory

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

d. Gets his current processes status.

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ cat myinfo.sh
#!/bin/bash

echo "Enter your Logname"
read logname

if [ "$logname" = "root" ];
then
    home="/root"
else
    home="/home/$logname"
fi

if ! grep -q "^$logname:" /etc/passwd;
then
    echo "$logname is not found in /etc/passwd file"
    exit 1
fi

echo "Full Info about Files and Directories in the Home Directory:"
ls -l "$home"

echo "Copying your Files and Directories to /tmp:"
cp -r "$home"/* /tmp/

echo "Current processes status:"
ps aux | grep $logname
mabotalb@ubuntu22:~/lab-files$
```



```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ./myinfo.sh
Enter your Logname
ali
Logname: ali
ali is not found in /etc/passwd file
mabotalb@ubuntu22:~/lab-files$
```

```
mabotalb@ubuntu22: ~/lab-files
mabotalb@ubuntu22:~/lab-files$ ./myinfo.sh
Enter your Logname
mabotalb
Logname: mabotalb
Full Info about Files and Directories in the Home Directory:
/home/mabotalb/:
total 85692
drwxr-xr-x  2 mabotalb mabotalb      4096 21:24 25 نوف Desktop
drwxrwxr-x  2 mabotalb mabotalb      4096 15:00 2  ينا docs
drwxr-xr-x  2 mabotalb mabotalb      4096 22:22 14 ينا Documents
drwxr-xr-x 14 mabotalb mabotalb    12288 23:03 22 ينا Downloads
-rw-rw-r--  1 mabotalb mabotalb         0 07:08 10 ينا find
-rw-r--r--  2 root     root         3078 12:23 10 ينا hardlink
drwxrwxr-x  2 mabotalb mabotalb      4096 15:12 1 ديس javasharedresources
drwxrwx---  3 mabotalb mabotalb      4096 23:22 22 ينا lab-files
-rw-rw-r--  1 mabotalb mabotalb    91987 14:05 2  ينا lorem.txt
-rw-rw-r--  1 mabotalb mabotalb 75437406 09:45 18 ديس mqttx-cli-linux-x64
drwxr-xr-x  2 mabotalb mabotalb      4096 21:24 25 نوف Music
-rw-rw-r--  1 mabotalb mabotalb         59 18:27 4  ينا mycv
-rw-rw-r--  1 mabotalb mabotalb         0 14:27 4  ينا myfile
dr--rwxr-x  2 mabotalb mabotalb      4096 14:04 4  ينا myteam
d-----  2 mabotalb mabotalb      4096 14:40 4  ينا newdir
-----  1 mabotalb mabotalb         0 14:39 4  ينا newfile
-rw--wx--x  1 mabotalb mabotalb         0 14:12 4  ينا oldpasswd
-rw-rw-r--  1 mabotalb mabotalb        87 06:30 8 ديس package-lock.json
-rw-r--r--  1 mabotalb mabotalb    3051 07:16 10 ينا passwd
drwxr-xr-x  3 mabotalb mabotalb      4096 15:10 28 نوف Pictures
drwxrwxr-x  8 mabotalb mabotalb      4096 18:56 20 ينا Projects
drwxr-xr-x  2 mabotalb mabotalb      4096 21:24 25 نوف Public
drwx----- 19 mabotalb mabotalb      4096 10:49 17 ينا snap
```