Lab **3**

Information Technology Institute

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D E P A R T M E N T

1. Write a script called mycase, using the case utility to checks the type of character entered by a user:
   a. Upper Case.
   b. Lower Case.
   c. Number.
   d. Nothing.

```
mariam@mariam-Latitude-E6430:~$ vi mycase.sh
mariam@mariam-Latitude-E6430:~$ sudo chmod +x mycase.sh
mariam@mariam-Latitude-E6430:~$ ./mycase.sh hello
./mycase.sh: line 13: nothing: command not found
mariam@mariam-Latitude-E6430:~$ ./mycase.sh h
lower case
mariam@mariam-Latitude-E6430:~$ ./mycase.sh H
upper case
mariam@mariam-Latitude-E6430:~$ ./mycase.sh :
./mycase.sh: line 13: nothing: command not found
mariam@mariam-Latitude-E6430:~$
```

2. Enhanced the previous script, by checking the type of string entered by a user:
   a. Upper Cases.
   b. Lower Cases.
   c. Numbers.
   d. Mix.
   e. Nothing.

3. Write a script called mychmod using for utility to give execute permission to all files and directories in your home directory.

Bash Shell

```
mariam@mariam-Latitude-E6430:~$ vi mychmod.sh
mariam@mariam-Latitude-E6430:~$ ./mychmod.sh
mariam@mariam-Latitude-E6430:~$ ls -l
total 15936
-rwxrwxr-x 1 mariam mariam     10240 16:27 31 سب archice.tar
drwxrwxr-x 2 mariam mariam      4096 18:12 29 سب Desktop
drwxrwxr-x 3 mariam mariam      4096 09:44 22 سب Documents
drwxrwxr-x 4 mariam mariam      4096 16:51 31 سب Downloads
-rwxrwxr-x 1 mariam mariam       133 23:46 30 سب error
-rwxrwxr-x 1 mariam mariam         6 18:35 21 سب file1
-rwxrwxr-x 1 mariam mariam        27 18:25 28 سب file1.txt
-rwxrwxr-x 1 mariam mariam        27 18:35 28 سب file2.txt
-rwxrwxr-x 1 mariam mariam        16 17:15 28 سب greeting.sh
-rwxrwxr-x 1 mariam mariam    465997 21:07 30 سب hell
drwxrwxr-x 2 mariam mariam      4096 18:33 20 سب Music
-rwxrwxr-x 1 mariam mariam       146 16:19 31 سب mycase.sh
-rwxrwxr-x 1 mariam mariam       221 23:20 28 سب mycd.sh
-rwxrwxr-x 1 mariam mariam        37 17:12 31 سب mychmod.sh
-rwxrwxr-x 1 mariam mariam        25 18:52 28 سب mycp.sh
-rwxrwxr-x 1 mariam mariam        71 21:01 30 سب mycv.txt
drwxrwxr-x 2 mariam mariam      4096 18:52 28 سب mydir
-rwxrwxr-x 1 mariam mariam       124 11:02 31 سب myinfo.sh
dr-xrwx--x 2 mariam mariam      4096 14:52 31 سب myteam
-rwxrwxr-x 1 mariam mariam       252 10:59 31 سب mytest.sh
```

```
for x in $HOME/*
do
sudo chmod +x $x
done
~
```
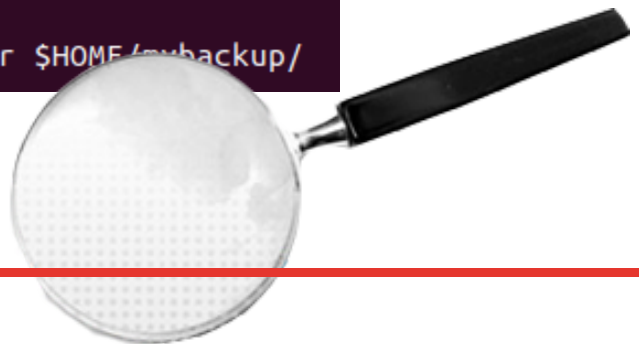
4. Write a script called mybackup using to create a backup of only files in your home
   directory.

```
#!/bin/bash
for file in $HOME/*
    do
        if [ -f file ]
        then
            sudo cp $file $HOME/mybackup/
        fi
    done
sudo tar -cvf $Home/mybackup/archive.tar $HOME/mybackup/
```

5. Write a script called mymail using for utility to send a mail to all users in the system.
   Note: write the mail body in a file called mtemplate.

```
mariam@mariam-Latitude-E6430:~$ ./mymail.sh
mail is sent
mail is sent
mail is sent
```

```
#!/bin/bash
for user in `awk -F: '{print $1}' /etc/passwd`
do
mailx $user<letter
echo mail is sent
done
```

6. Write a script called chkmail to check for new mails every 10 seconds. Note: mails are
   saved in /var/mail/userna   me.

```
mariam@mariam-Latitude-E6430:~$ vi chkmail.sh
mariam@mariam-Latitude-E6430:~$ ./chkmail.sh
"/var/mail/mariam": 2 messages 2 new
>N    1 mariam              14/507   19: 31 س سبس
 N    2 mariam              13/463   19: 31 س سبس
?
```

```
#!/bin/bash
while true
do
mailx
sleep 10
done
```

Bash Shell

7. What is the output of the following script

```
typeset -i n1
typeset -i n2
n1=1
n2=1
while test $n1 -eq $n2
do
     n2=$n2+1
     print $n1
if [ $n1 -gt $n2 ]
then
     break
else
     continue
fi
n1=$n1+1
print $n2
done

// 1 1
```

8. Create the following menu:
   a. Press 1 to ls and Press 2 to ls –a and Press 3 to exit Using select utility then while utility.

```
mariam@mariam-Latitude-E6430:~$ vi menu.sh
mariam@mariam-Latitude-E6430:~$ ./menu.sh
bash: ./menu.sh: Permission denied
mariam@mariam-Latitude-E6430:~$ chmod +x menu.sh
mariam@mariam-Latitude-E6430:~$ ./menu.sh
1) ls -a
2) ls
3) exit
choose a number: 1
archice.tar  file2.txt    mycd.sh      oldpasswd       sortfile.txt
archive.tar  greeting.sh  mychmod.sh   passwd          Templates
chkmail.sh   hell         mycp.sh      Pictures        test
Desktop      letter       mycv.txt     Public          testing1
Documents    menu.sh      mydir        recursive.txt   us
Downloads    Music        myinfo.sh    s1.sh
error        mybackup     mymail.sh    s2.sh
file1        mybackup.sh  myteam       snap
file1.txt    mycase.sh    mytest.sh    sortfile
choose a number: 
```

```
#!/bin/bash
PS3="choose a number: "
select choice in "ls -a" "ls" "exit"
do
case $REPLY in
1) ls
;;
2) ls -a
;;
3) exit
;;
esac
done
```

9. Write a script called myarr that ask a user how many elements he wants to enter in an array, fill the array and then print it.

```
mariam@mariam-Latitude-E6430:~$ ./myarr.sh
enter how many elements: 3
enter element number 0 value: 1
1
enter element number 1 value: 2
2
enter element number 2 value: 3
3
1 2 3
mariam@mariam-Latitude-E6430:~$
```

```
read -p "enter how many elements: " ele
let i=0
while ((i<ele))
do
read -p "enter element number $i value: " value
arr[$i]=$value
echo ${arr[$i]}
let i=$i+1
done
echo ${arr[@]}
```

Bash Shell

10. Write a script called myavg that calculate average of all numbers entered by a user

Note: use arrays

```
mariam@mariam-Latitude-E6430:~$ ./myav.sh
enter the total of numbers: 3
enter your number 0: 1
enter your number 1: 2
enter your number 2: 3
the average is 2
mariam@mariam-Latitude-E6430:~$
```

```
read -p "enter the total of numbers: " total
let i=0
let sum=0
while ((i<total))
do
read -p "enter your number $i: " num
let sum=$sum+$num
let i=i+1
done
let avr=$sum/$total
echo the average is $avr
```

11. Write a function called mysq that calculate square if its argument.file + rakam with a function to calculate the square

```
mariam@mariam-Latitude-E6430:~$ ./mysq.sh 2
2^2 = 4
mariam@mariam-Latitude-E6430:~$
```

```
#!/bin/bash
function calculate {
let calc=$1*$1
echo $1^2 = $calc
#retuen $calc
}
calculate $1
```

tar to compress

c =>create file

f => file tar

Bash Shell

t =>to list