Lap3 :

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.

```
#!/bin/bash
echo Enter a single character :
read char

case $char in
  [A-Z]) echo Upper case ;;
  [a-z]) echo Lower case ;;
  [0-9]) echo Number ;;
  *) echo Nothing ;;
esac
```

```
ghx@ghx:~$ mycase.sh
Enter a single character :
G
Upper case
ghx@ghx:~$ mycase.sh
Enter a single character :
e
Lower case
ghx@ghx:~$
```

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.

```
#!/bin/bash

echo "Enter a string:"
read str
case $str in
[A-Z]*)
if [[ "$str" =~ ^[A-Z]+$ ]]; then
echo "Upper Cases."
else
echo "Mix."
fi
;;
[a-z]*)
if [[ "$str" =~ ^[a-z]+$ ]]; then
echo "Lower Cases."
else
echo "Mix."
fi
;;
[0-9]*)
if [[ "$str" =~ ^[0-9]+$ ]]; then
echo "Numbers."
else
echo "Mix."
fi
;;
*)
echo "Nothing"
;;
esac
```

```
ghx@ghx:~$ vi mycase.sh
ghx@ghx:~$ mycase.sh
Enter a string:
ghada
Lower Cases.
ghx@ghx:~$ mycase.sh
Enter a string:
GHADA
Upper Cases.
```

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

```
#!/bin/bash

for item in  ~/*; do
if [ -e "$item" ]; then
chmod +x "$item"
echo "Added execute permission to: $item"
fi
done
```

```
ghx@ghx:~$ mychmod.sh
Added execute permission to: /home/ghx/awk_practis
Added execute permission to: /home/ghx/backup
Added execute permission to: /home/ghx/copydir
Added execute permission to: /home/ghx/Desktop
Added execute permission to: /home/ghx/Documents
Added execute permission to: /home/ghx/Downloads
Added execute permission to: /home/ghx/first.sh
Added execute permission to: /home/ghx/hi.sh
Added execute permission to: /home/ghx/iti_laps
Added execute permission to: /home/ghx/Music
```

4. Write a script called mybackup using for utility to create a backup of only files in your home directory.

```
#!/bin/bash
backup_dir=~/backup
mkdir -p "$backup_dir"
for file in ~/* ; do
if [ -f "$file" ]; then
cp "$file" "$backup_dir/"
echo "Backed up: $file"
fi
done
```

```
ghx@ghx:~$ mybackup.sh
Backed up: /home/ghx/awk_practise
Backed up: /home/ghx/first.sh
Backed up: /home/ghx/hi.sh
Backed up: /home/ghx/mybackup.sh
Backed up: /home/ghx/mycase.sh
Backed up: /home/ghx/myfile
```

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.

```
#!/bin/bash
template=mail_template
for user in $(cut -d: -f1 myfile) ; do
mail -s "system user " $user < $template
echo mail sent to $user
done
```

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

```
#!/bin/bash
while true ; do
if [ -s /var/mail/$USER ]
then
echo "you have new mail "
else
echo "No mail arrive"
fi
sleep 10
done
```

```
ghx@ghx:~$ chkmail.sh
No mail arrive
```

Bonus:
Open a talk session to a certain user when she/he logs into the system.
Lab 3
2
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

it only print $n once =1

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

```
ghx@ghx:~$ menu.sh
1) ls
2) ls
3) -a
4) Exit
Select Your Choise : 1
awk_practise  Desktop    hi.sh     mybackup.sh  mymail.sh  Templates  vmware
backup        Documents  iti_laps  mycase.sh    Pictures   test_git
chkmail.sh    Downloads  menu.sh   mychmod.sh   Public     test.sh
copydir       first.sh   Music     myfile       snap       Videos
Select Your Choise : 2
.              copydir     iti_laps     .mysh.sh.swp              test_git
..             Desktop     .lesshst     .mysql_history            test.sh
awk_practise   Documents   .local       Pictures                  Videos
backup         .dotnet     menu.sh      .pki                      vmware
.bash_history  Downloads   Music        .profile                  .vscode
.bash_logout   first.sh    mybackup.sh  Public                    .wget-hsts
.bashrc        .gitconfig  mycase.sh    snap
.cache         .gk         mychmod.sh   .ssh
chkmail.sh     .gnupg      myfile       .sudo_as_admin_successful
.config        hi.sh       mymail.sh    Templates
Select Your Choise : 3
ghx@ghx:~$
```

```
#!/bin/bash
PS3="Select Your Choise : "
options=("ls" "ls -a" "Exit")
select choice in ${options[@]}; do
case $REPLY in
1)ls ;;
2)ls -a ;;
3)exit ;;
*)echo nothing ;;
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.
10.Write a script called myavg that calculate average of all numbers entered by a user. Note: use arrays
11.Write a function called mysq that calculate square if its argument