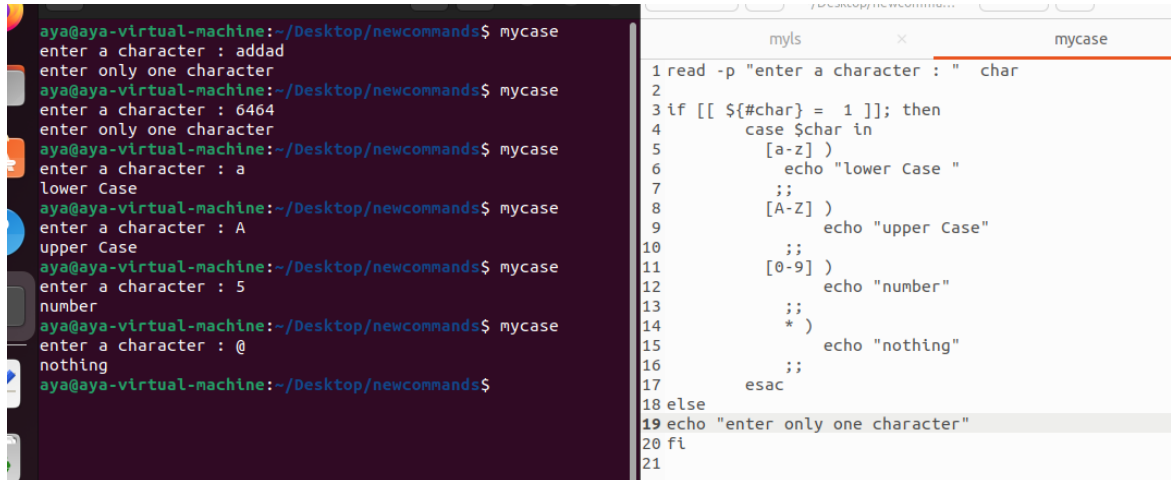1. Write a script called mycase, using the case utility to checks the type of character

entered by a user:

a. Upper Case.

b. Lower Case.

c. Number.
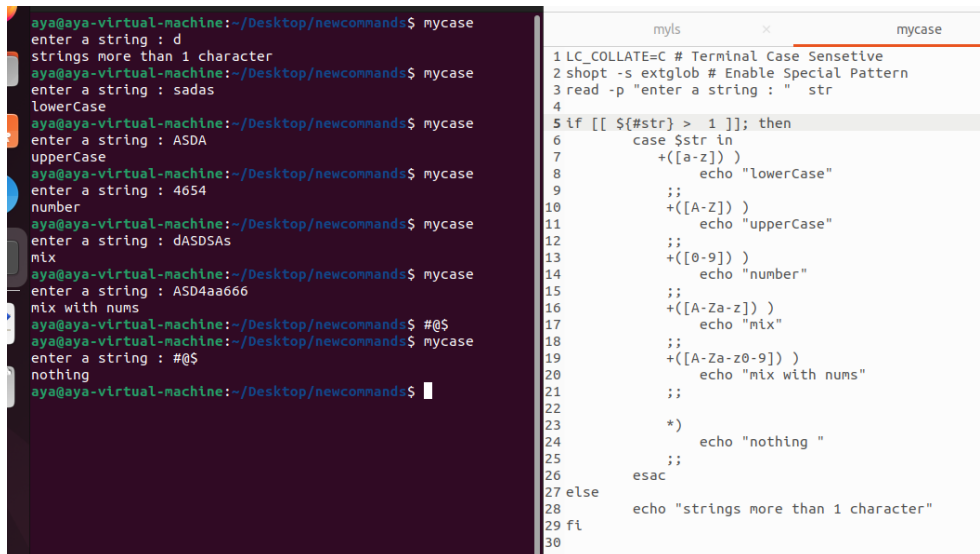
d. Nothing.

```
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : addad
enter only one character
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : 6464
enter only one character
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : a
lower Case
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : A
upper Case
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : 5
number
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a character : @
nothing
aya@aya-virtual-machine:~/Desktop/newcommands$
```

myls   x   mycase

```
1 read -p "enter a character : "  char
2
3 if [[ ${#char} =  1 ]]; then
4         case $char in
5             [a-z] )
6                 echo "lower Case "
7             ;;
8             [A-Z] )
9                 echo "upper Case"
10            ;;
11            [0-9] )
12                echo "number"
13            ;;
14            * )
15                echo "nothing"
16            ;;
17        esac
18 else
19 echo "enter only one character"
20 fi
21
```

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.

```
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : d
strings more than 1 character
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : sadas
lowerCase
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : ASDA
upperCase
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : 4654
number
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : dASDSAs
mix
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : ASD4aa666
mix with nums
aya@aya-virtual-machine:~/Desktop/newcommands$ #@$
aya@aya-virtual-machine:~/Desktop/newcommands$ mycase
enter a string : #@$
nothing
aya@aya-virtual-machine:~/Desktop/newcommands$
```

myls   x   mycase

```
1 LC_COLLATE=C # Terminal Case Sensetive
2 shopt -s extglob # Enable Special Pattern
3 read -p "enter a string : "  str
4
5 if [[ ${#str} >  1 ]]; then
6         case $str in
7             +([a-z]) )
8                 echo "lowerCase"
9             ;;
10            +([A-Z]) )
11                echo "upperCase"
12            ;;
13            +([0-9]) )
14                echo "number"
15            ;;
16            +([A-Za-z]) )
17                echo "mix"
18            ;;
19            +([A-Za-z0-9]) )
20                echo "mix with nums"
21            ;;
22
23            *)
24                echo "nothing "
25            ;;
26        esac
27 else
28     echo "strings more than 1 character"
29 fi
30
```

3. Write a script called mychmod using for utility to give execute permission to all files and

directories in your home directory.


```
1 for i in `ls /home/$USER`
2 do
3 chmod +x /home/$USER/$i
4 done
5 ls -l /home/$USER
```

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

home directory.


```
1 for i in `ls /home/$USER`
2 do
3    if [ -f /home/$USER/$i ];then
4        cp /home/$USER/$i ~/Music/currentbackup
5        echo "done"
6    fi
7 done
```

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.


```
1 for user in `awk -F: '{
2 print $1
3 }' /etc/passwd`
4 do
5 cat ~/Desktop/newcommands/mtemplate | mail -s 'sup' $user
6 done
```

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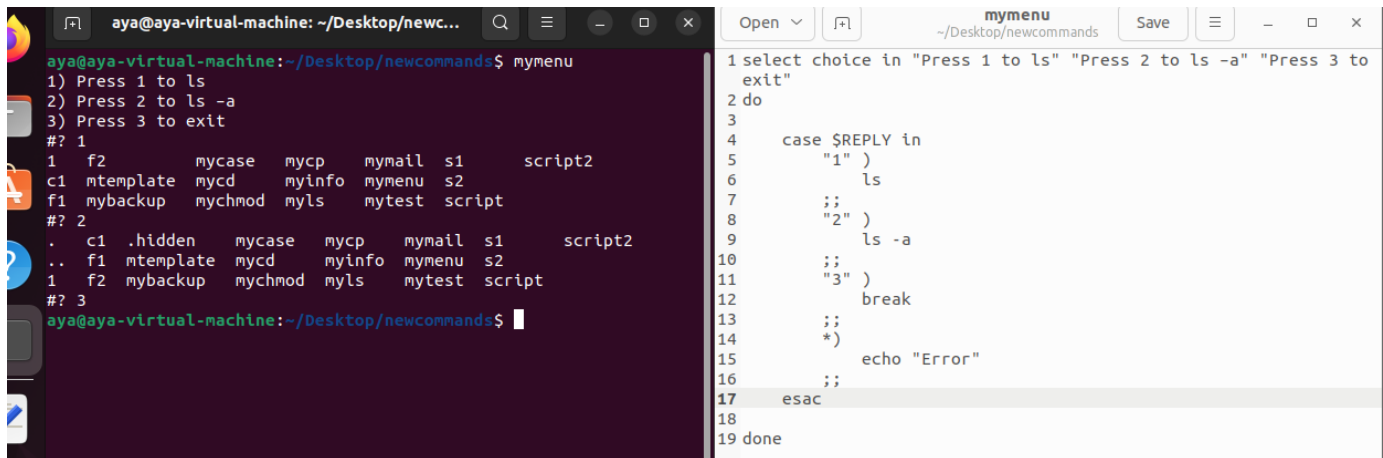


```
1 while true; do
2     cat /var/spool/mail/$USER
3     sleep 10
4 done
```

7. What is the output of the following script

<mark>It will print the value of n1 one time which is 1</mark>
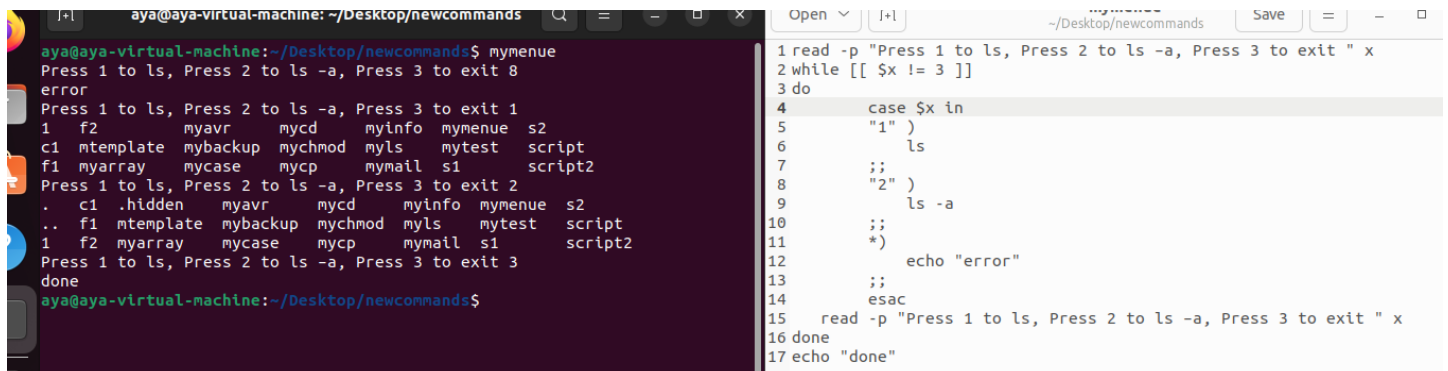
8. Create the following menu:

a. Press 1 to ls

b. Press 2 to ls –a

c. Press 3 to exit


```
1 select choice in "Press 1 to ls" "Press 2 to ls -a" "Press 3 to
    exit"
2 do
3
4       case $REPLY in
5           "1" )
6               ls
7           ;;
8           "2" )
9               ls -a
10          ;;
11          "3" )
12              break
13          ;;
14          *)
15              echo "Error"
16          ;;
17      esac
18
19 done
```
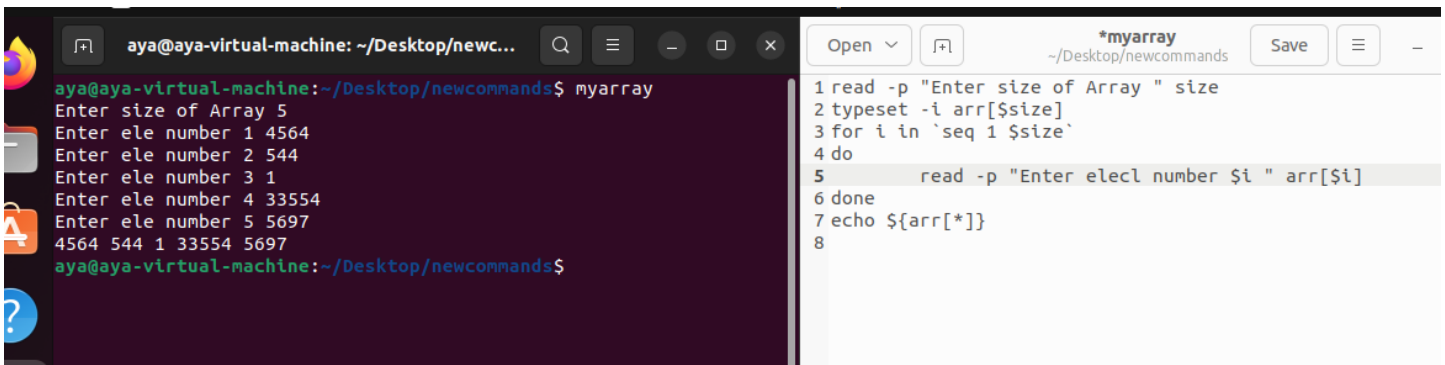
Using select utility then while utility.


```
1 read -p "Press 1 to ls, Press 2 to ls -a, Press 3 to exit " x
2 while [[ $x != 3 ]]
3 do
4       case $x in
5           "1" )
6               ls
7           ;;
8           "2" )
9               ls -a
10          ;;
11          *)
12              echo "error"
13          ;;
14      esac
15      read -p "Press 1 to ls, Press 2 to ls -a, Press 3 to exit " x
16 done
17 echo "done"
```

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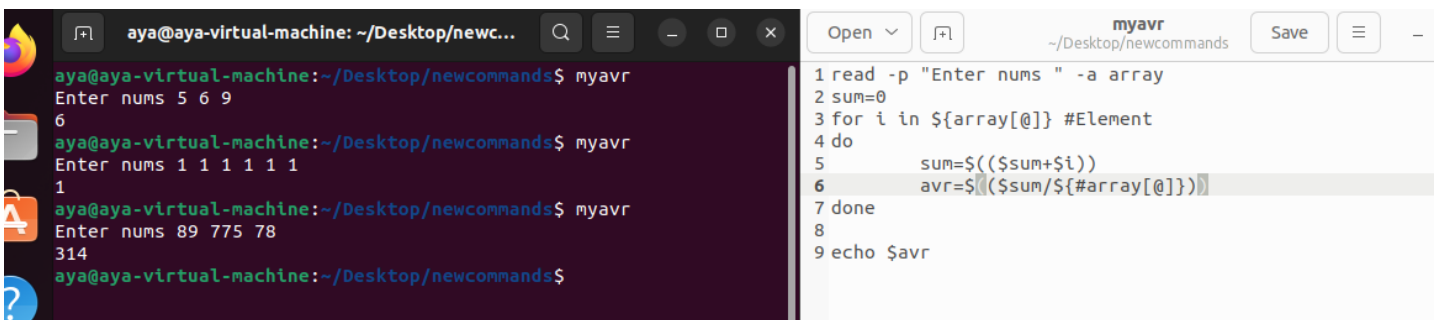
array, fill the array and then print it.

```
aya@aya-virtual-machine:~/Desktop/newcommands$ myarray
Enter size of Array 5
Enter ele number 1 4564
Enter ele number 2 544
Enter ele number 3 1
Enter ele number 4 33554
Enter ele number 5 5697
4564 544 1 33554 5697
aya@aya-virtual-machine:~/Desktop/newcommands$
```

*myarray
~/Desktop/newcommands

```
1 read -p "Enter size of Array " size
2 typeset -i arr[$size]
3 for i in `seq 1 $size`
4 do
5         read -p "Enter elecl number $i " arr[$i]
6 done
7 echo ${arr[*]}
8
```

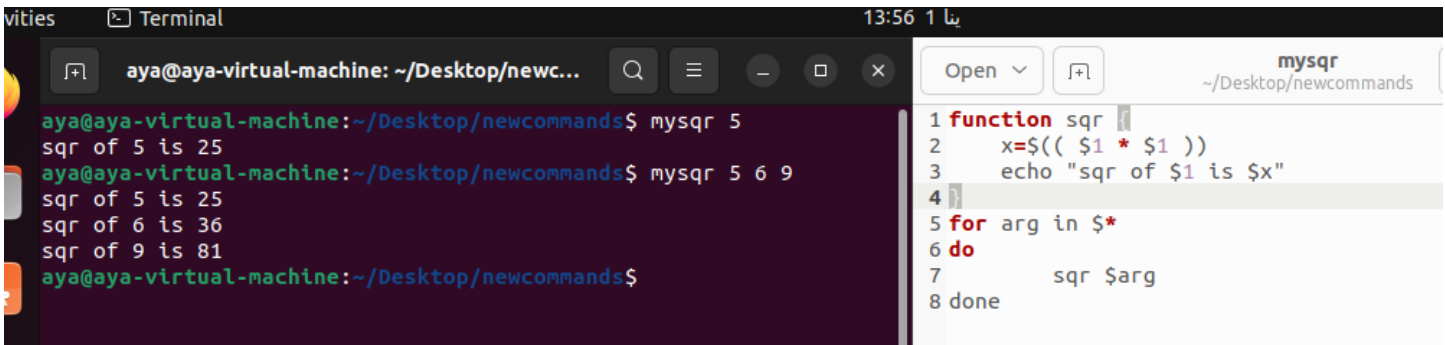10.Write a script called myavg that calculate average of all numbers entered by a user.

Note: use arrays

```
aya@aya-virtual-machine:~/Desktop/newcommands$ myavr
Enter nums 5 6 9
6
aya@aya-virtual-machine:~/Desktop/newcommands$ myavr
Enter nums 1 1 1 1 1 1
1
aya@aya-virtual-machine:~/Desktop/newcommands$ myavr
Enter nums 89 775 78
314
aya@aya-virtual-machine:~/Desktop/newcommands$
```

myavr
~/Desktop/newcommands

```
1 read -p "Enter nums " -a array
2 sum=0
3 for i in ${array[@]} #Element
4 do
5         sum=$(($sum+$i))
6         avr=$(($sum/${#array[@]}))
7 done
8
9 echo $avr
```

11.Write a function called mysq that calculate square if its argument.

```
aya@aya-virtual-machine:~/Desktop/newcommands$ mysqr 5
sqr of 5 is 25
aya@aya-virtual-machine:~/Desktop/newcommands$ mysqr 5 6 9
sqr of 5 is 25
sqr of 6 is 36
sqr of 9 is 81
aya@aya-virtual-machine:~/Desktop/newcommands$
```

mysqr
~/Desktop/newcommands

```
1 function sqr {
2         x=$(( $1 * $1 ))
3         echo "sqr of $1 is $x"
4 }
5 for arg in $*
6 do
7         sqr $arg
8 done
```