

Bash Script

Lab2

Q1

```
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: A
Upper Char
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: 5
Number
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: a
Lower Char
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character:
Nothing
```

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash

read -p "Enter a character: " ch
case $ch in
[0-9] ) echo "Number";;
[A-Z] ) echo "Upper Char";;
[a-z] ) echo "Lower Char";;
* ) echo "Nothing";;
esac
```

Q2

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash

read -p "Enter a character: " ch
case $ch in
*[0-9]*)
    case $ch in
        *[A-Z]* | *[a-z]*) echo "Mix";;
        * ) echo "Number";;
    esac
    ;;
*[A-Z]*)
    case $ch in
        *[0-9]* | *[a-z]*) echo "Mix";;
        * ) echo "Upper Char";;
    esac
    ;;
*[a-z]*)
    case $ch in
        *[0-9]* | *[A-Z]*) echo "Mix";;
        * ) echo "Lower Char";;
    esac
    ;;
* ) echo "Nothing";;
esac
```

```
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: s
Lower Char
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: S
Upper Char
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: S4
Nothing
samaa@DESKTOP-HLF0E6L:~$ nano mycase.sh
samaa@DESKTOP-HLF0E6L:~$ ./mycase.sh
Enter a character: 4a
Mix
```

Q3

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash

sudo chmod -R 777 /home
```

```
samaa@DESKTOP-HLF0E6L:~$ ./mychmod.sh
[sudo] password for samaa:
samaa@DESKTOP-HLF0E6L:~$ ls test.txt
test.txt
samaa@DESKTOP-HLF0E6L:~$ ls -l test.txt
-rwxrwxrwx 1 samaa samaa 0 Feb 27 16:28 test.txt
```

Q4

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash

line=$(ls)
mkdir myBackup
for i in $line
do
    cp -r $line myBackup
done

ls -l myBackup
echo "DONE!"
```

```
samaa@DESKTOP-HLF0E6L:~$ ./mybackup.sh
total 128
-rwxr-xr-x 1 samaa samaa 161 Feb 27 19:31 LAB1.sh
-rwxr-xr-x 1 samaa samaa 356 Feb 27 19:31 LAB11.sh
-rwxr-xr-x 1 samaa samaa 71 Feb 27 19:31 LAB2.sh
-rwxr-xr-x 1 samaa samaa 358 Feb 27 19:31 LAB3.sh
-rwxr-xr-x 1 samaa samaa 242 Feb 27 19:31 LAB4.sh
-rwxr-xr-x 1 samaa samaa 135 Feb 27 19:31 LAB5.sh
-rwxr-xr-x 1 samaa samaa 410 Feb 27 19:31 LAB6.sh
-rwxr-xr-x 1 samaa samaa 142 Feb 27 19:31 LAB7.sh
-rwxr-xr-x 1 samaa samaa 171 Feb 27 19:31 LAB8.sh
-rwxr-xr-x 1 samaa samaa 114 Feb 27 19:31 LAB9.sh
-rwxr-xr-x 1 samaa samaa 72 Feb 27 19:31 LAB_1.sh
drwxr-xr-x 2 samaa samaa 4096 Feb 27 19:31 Q3
-rwxr-xr-x 1 samaa samaa 50 Feb 27 19:31 Q3_1.txt
-rwxr-xr-x 1 samaa samaa 50 Feb 27 19:31 Q3_2.txt
drwxr-xr-x 2 samaa samaa 4096 Feb 27 19:31 Q4
-rwxr-xr-x 1 samaa samaa 67 Feb 27 19:31 ReadInput.sh
-rwxr-xr-x 1 samaa samaa 53 Feb 27 19:31 ReadInput.sh.save
-rwxr-xr-x 1 samaa samaa 151 Feb 27 19:31 arg.sh
drwxr-xr-x 6 samaa samaa 4096 Feb 27 19:31 mybackup
-rwxr-xr-x 1 samaa samaa 114 Feb 27 19:31 mybackup.sh
-rwxr-xr-x 1 samaa samaa 517 Feb 27 19:31 mycase.sh
-rwxr-xr-x 1 samaa samaa 93 Feb 27 19:31 mycd.sh
-rwxr-xr-x 1 samaa samaa 39 Feb 27 19:31 mychmod.sh
-rwxr-xr-x 1 samaa samaa 60 Feb 27 19:31 mycp.sh
-rwxr-xr-x 1 samaa samaa 192 Feb 27 19:31 myinfo.sh
-rwxr-xr-x 1 samaa samaa 311 Feb 27 19:31 myls.sh
-rwxr-xr-x 1 samaa samaa 550 Feb 27 19:31 mytest.sh
-rwxr-xr-x 1 samaa samaa 26 Feb 27 19:31 s1.sh
-rwxr-xr-x 1 samaa samaa 53 Feb 27 19:31 s2.sh
-rwxr-xr-x 1 samaa samaa 243 Feb 27 19:31 script.sh
-rwxr-xr-x 1 samaa samaa 185 Feb 27 19:31 script.sh.save
-rwxr-xr-x 1 samaa samaa 0 Feb 27 19:31 test.txt
drwxr-xr-x 2 samaa samaa 4096 Feb 27 19:31 tmp
DONE!
```

Q7

```
samaa@DESKTOP-HLF0E6L:~$ ./Q7.sh
Error: no such file "1"
```

Q8

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash

select p in ls ls_a Exit
do
case $p in
ls ) ls $1;;
ls_a ) ls -a $1;;
Exit ) break;
;;
esac
done
```

```
samaa@DESKTOP-HLF0E6L:~$ ./Q8.sh
1) ls
2) ls_a
3) Exit
#? 1
LAB1.sh LAB4.sh LAB8.sh Q3_1.txt Q8.sh myBackup mycd.sh myls.sh script.sh
LAB11.sh LAB5.sh LAB9.sh Q3_2.txt ReadInput.sh mybackup mychmod.sh mytest.sh script.sh.save
LAB2.sh LAB6.sh LAB_1.sh Q4 ReadInput.sh.save mybackup.sh mycp.sh s1.sh test.txt
LAB3.sh LAB7.sh Q3 Q7.sh arg.sh mycase.sh myinfo.sh s2.sh tmp
#? 2
. .local LAB3.sh LAB_1.sh ReadInput.sh mycd.sh s2.sh
.. .motd_shown LAB4.sh Q3 ReadInput.sh.save mychmod.sh script.sh
.LAB113.sh.swp .profile LAB5.sh Q3_1.txt arg.sh mycp.sh script.sh.save
.bash_history .sudo_as_admin_successful LAB6.sh Q3_2.txt myBackup myinfo.sh test.txt
.bash_logout LAB1.sh LAB7.sh Q4 mybackup myls.sh tmp
.bashrc LAB11.sh LAB8.sh Q7.sh mybackup.sh mytest.sh
.landscape LAB2.sh LAB9.sh Q8.sh mycase.sh s1.sh
#? 3
```

Q9

```
samaa@DESKTOP-HLF0E6L:~$ ./myarr.sh
Enter elements of array: 1 2 3 4 5
Element: 1
Element: 2
Element: 3
Element: 4
Element: 5
samaa@DESKTOP-HLF0E6L:~$
```

```
samaa@DESKTOP-HLF0E6L: ~
GNU nano 4.8
#!/bin/bash
read -p "Enter elements of array: " arr
for i in ${arr[@]}
do
echo "Element: " $i
done
```

Q10

```
samaa@DESKTOP-HLF0E6L: ~  
GNU nano 4.8  
#!/bin/bash  
read -p "Enter the array size: " sz  
sum=0  
i=1  
  
while [ $i -le $sz ]  
do  
read -p "Enter Number: " num  
sum=$((sum+num))  
i=$((i+1))  
done  
  
avg=`echo "scale=2;$sum/$sz" | bc`  
#avg=$(echo $sum / $sz | bc -l)  
  
echo "The Average = " $avg
```

```
samaa@DESKTOP-HLF0E6L:~$ ./myavg.sh  
Enter the array size: 3  
Enter Number: 1  
Enter Number: 2  
Enter Number: 3  
The Average = 2.00
```

Q11

```
samaa@DESKTOP-HLF0E6L:~$ ./mysqr.sh  
Enter a number: 4  
Square Root of 4 = 2  
samaa@DESKTOP-HLF0E6L:~$
```

```
samaa@DESKTOP-HLF0E6L: ~  
GNU nano 4.8  
#!/bin/bash  
mysqr(){  
read -p "Enter a number: " num  
sqrt=$(echo "$num" | awk '{print sqrt($1)}')  
echo "Square Root of $num = $sqrt"  
}
```