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.

mycase.sh

```
#!/bin/bash

echo "Enter one character:"
read ch

case "$ch" in
    [A-Z])
        echo "Upper Case"
        ;;
    [a-z])
        echo "Lower Case"
        ;;
    [0-9])
        echo "Number"
        ;;
    "")
        echo "Nothing"
        ;;
    *)
        echo "Other character"
        ;;
esac
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mycase.sh
Enter one character:
d
Lower Case
benzema@Benzema:~/Desktop/ITI/Bash/Day3$
```

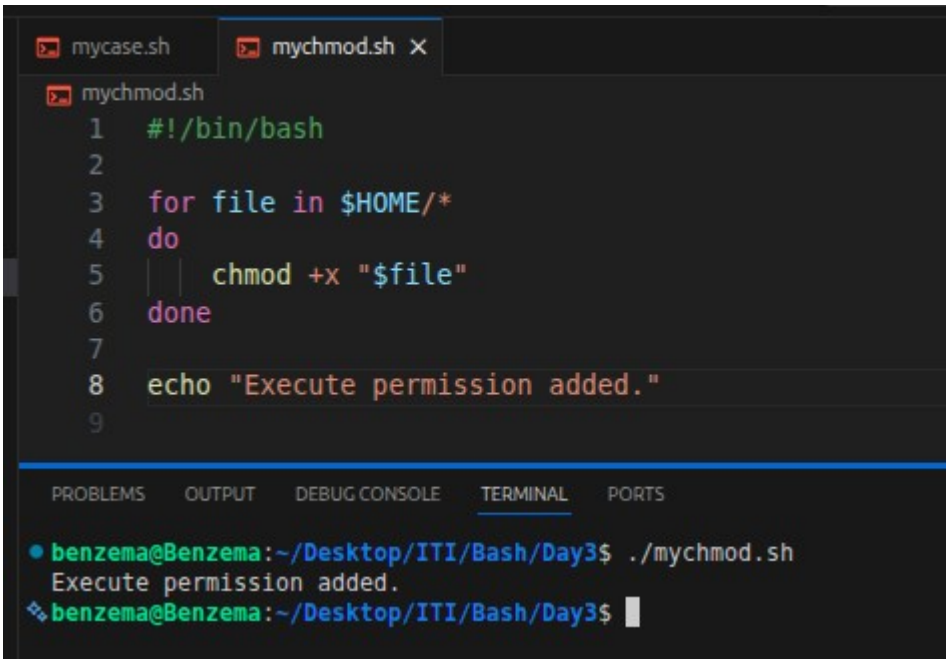
2. Enhanced the previous script, by checking the type of string entered by a user:
    a. Upper Cases.
    b. Lower Cases.

c. Numbers.
d. Mix.
e. Nothing.

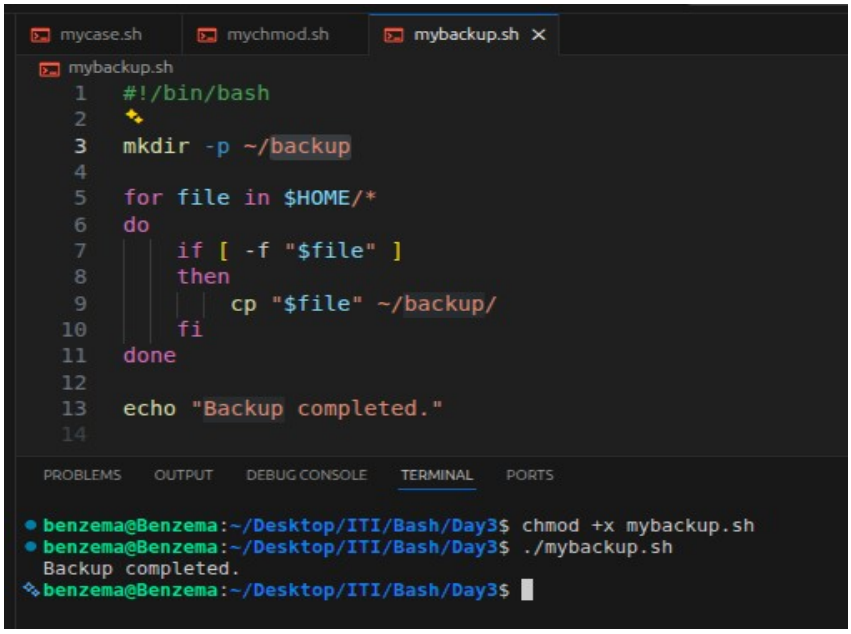
```
#!/bin/bash
echo "Enter a string:"
read str
case "$str" in
    "")
        echo "Nothing"
        ;;
    [A-Z]*)
        if [[ "$str" =~ ^[A-Z]+$ ]]; then
            echo "Upper Cases"
        else
            echo "Mix"
        fi
        ;;
    [a-z]*)
        if [[ "$str" =~ ^[a-z]+$ ]]; then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

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mycase.sh
Enter a string:
benzema
Lower Cases
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mycase.sh
Enter a string:
Benzema
Mix
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mycase.sh
Enter a string:
BENZEMA
Upper Cases
benzema@Benzema:~/Desktop/ITI/Bash/Day3$
```

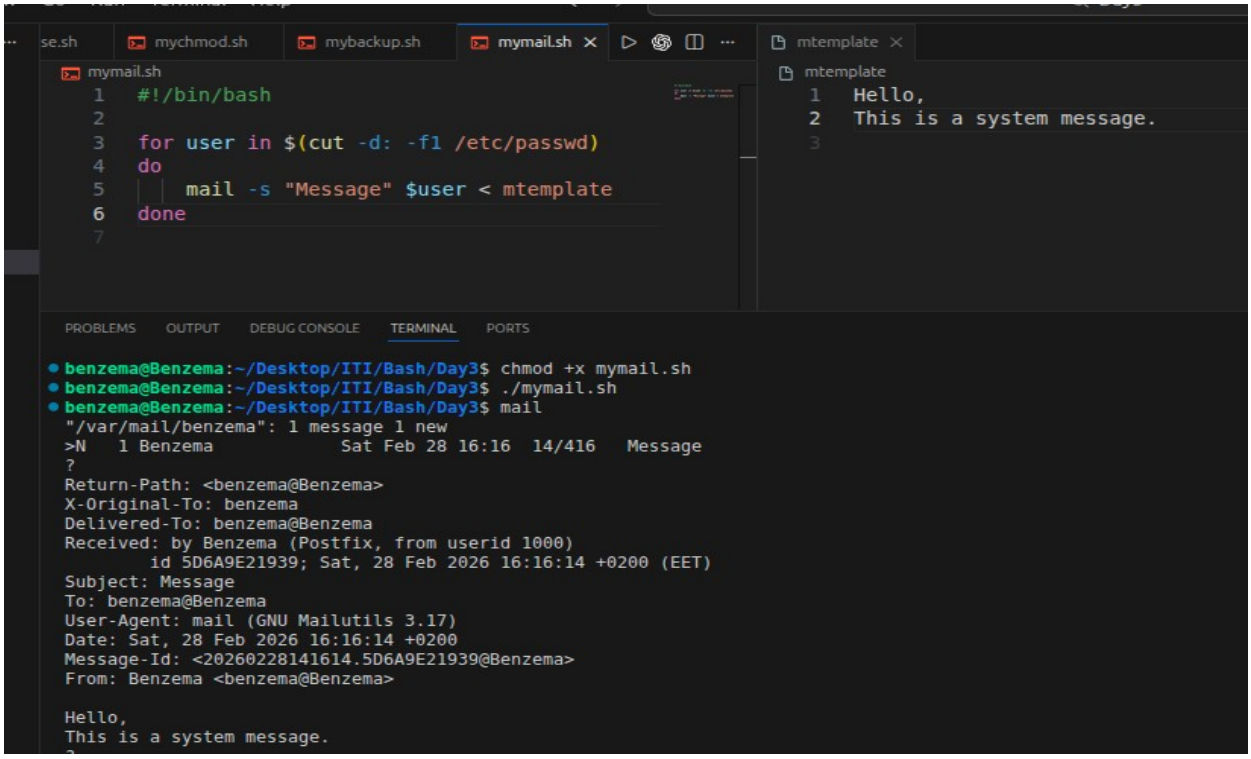
3. Write a script called mychmod using for utility to give execute permission to all files and directories in your home directory.



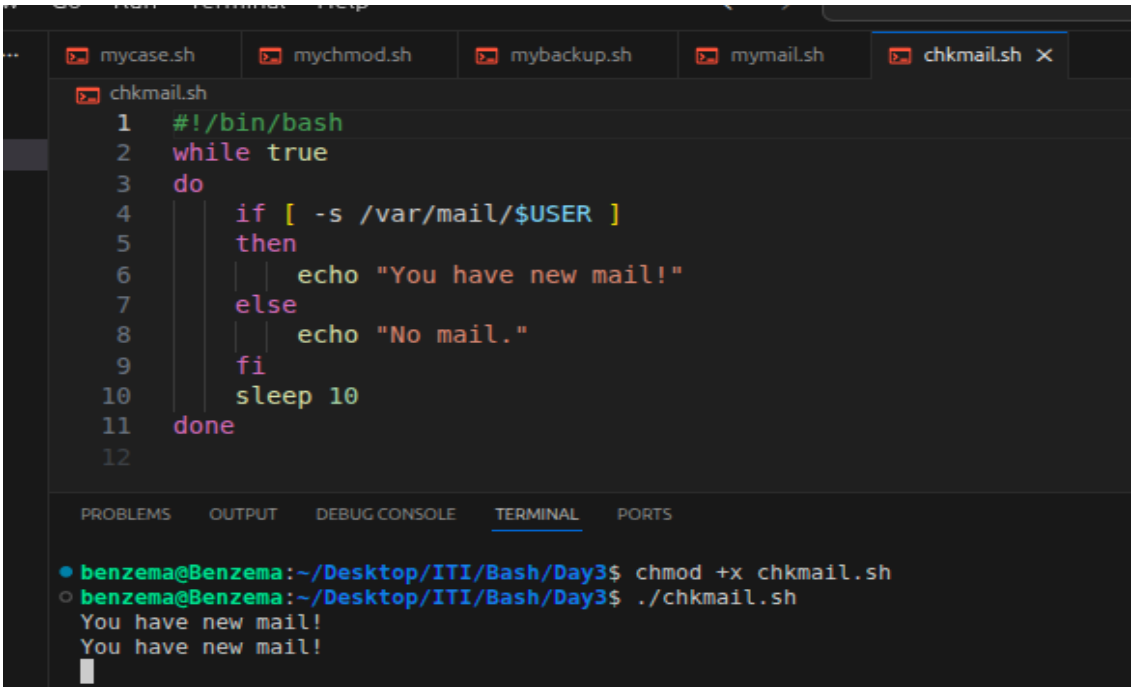
4. Write a script called mybackup using for utility to create a backup of only files in your home directory.



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.

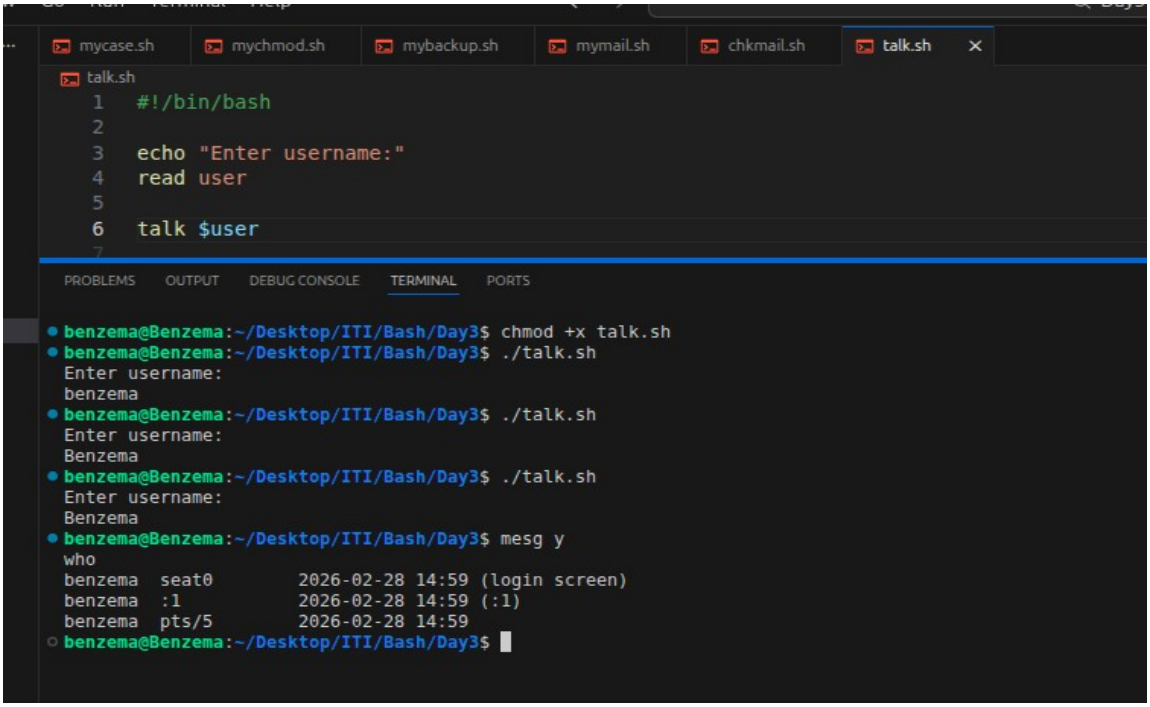


6. Write a script called chkmail to check for new mails every 10 seconds. Note: mails are saved in /var/mail/username.



Bonus:

Open a talk session to a certain user when she/he logs into the system.



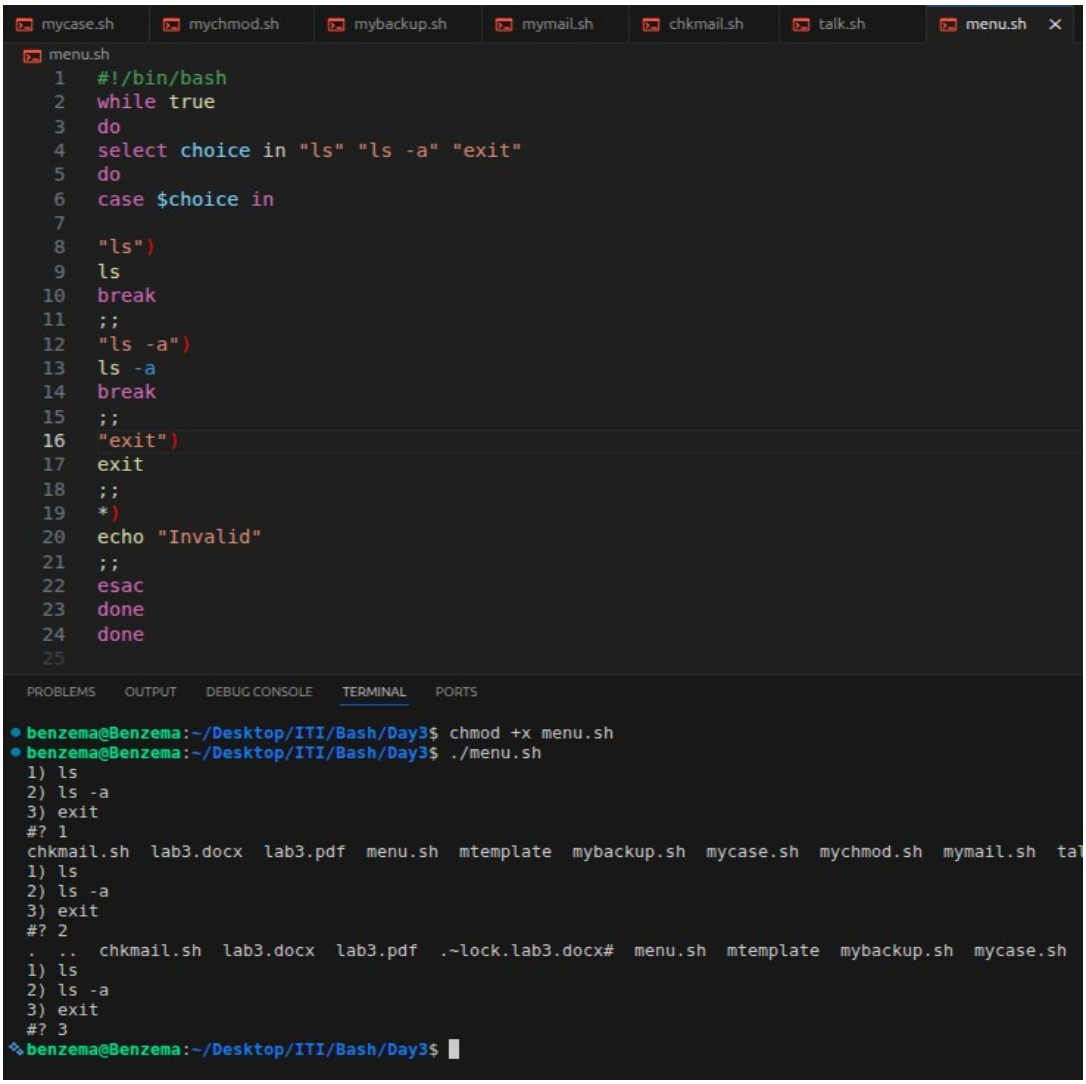
7. What is the output of the following script

```
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
```

The output is:
1
1
1
1
1
(infinite loop)

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.



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.

mymail.sh | chkmail.sh | talk.sh | menu.sh | myarr.sh

myarr.sh

```
#!/bin/bash

echo "How many elements?"
read n
for ((i=0;i<n;i++))
do
    echo "Enter element:"
    read arr[i]
done
echo "Array contents:"

for ((i=0;i<n;i++))
do
    echo ${arr[i]}
done
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x myarr.sh
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./my
myarr.sh     mybackup.sh  mycase.sh    mychmod.sh   mymail.sh
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./myarr.sh
How many elements?
6
Enter element:
1
Enter element:
2
Enter element:
3
Enter element:
5
Enter element:
6
Enter element:
2
Array contents:
1
2
3
5
6
2
benzema@Benzema:~/Desktop/ITI/Bash/Day3$
```

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

talk.sh | menu.sh | myarr.sh | myavg.sh

myavg.sh

```
#!/bin/bash

echo "How many numbers?"
read n
sum=0

for ((i=0;i<n;i++))
do
    read arr[i]
    sum=$((sum + arr[i]))
done
avg=$((sum / n))
echo "Average = $avg"
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x myavg.sh
benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./myavg.sh
How many numbers?
3
10
20
30
Average = 20
benzema@Benzema:~/Desktop/ITI/Bash/Day3$
```

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