

Lab 3

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
1  #!/bin/bash
2
3  echo "Enter one character:"
4  read ch
5
6  case "$ch" in
7      [A-Z])
8          echo "Upper Case"
9          ;;
10     [a-z])
11         echo "Lower Case"
12         ;;
13     [0-9])
14         echo "Number"
15         ;;
16     "")
17         echo "Nothing"
18         ;;
19     *)
20         echo "Other character"
21         ;;
22 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.

```

1  #!/bin/bash
2  echo "Enter a string:"
3  read str
4  case "$str" in
5      "")          echo "Nothing"
6      ;;
7      [A-Z]*)       if [[ $str =~ ^[A-Z]+$ ]]; then
8          echo "Upper Cases"
9      else
10         echo "Mix"
11     fi
12     ;;
13     [a-z]*)       if [[ $str =~ ^[a-z]+$ ]]; then
14         echo "Lower Cases"
15     else
16         echo "Mix"
17     fi
18     ;;
19     [0-9]*)       if [[ $str =~ ^[0-9]+$ ]]; then
20         echo "Numbers"
21     else
22         echo "Mix"
23     fi
24     ;;
25     *)            echo "Mix"
26     ;;
27   esac
28
29
30
31
32
33

```

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

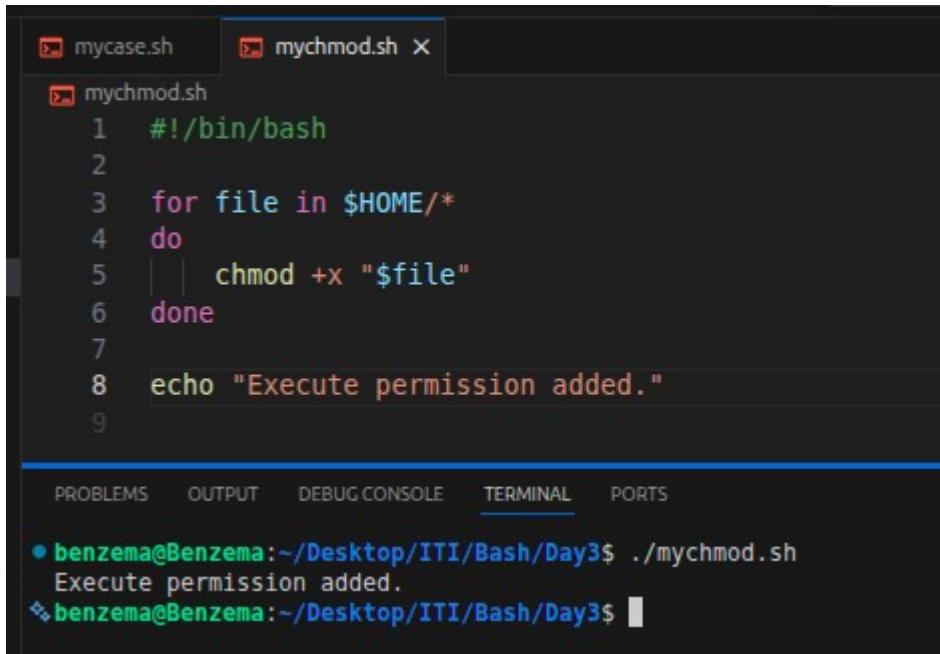
Mix
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./mycase.sh

Enter a string:

BENZEMA

Upper Cases

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



```

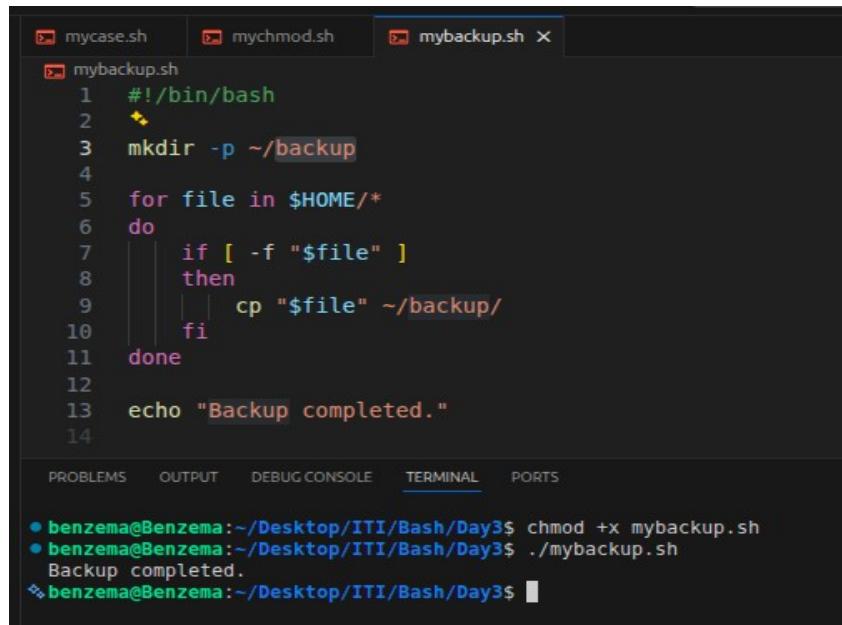
mycase.sh mychmod.sh x
mychmod.sh
1 #!/bin/bash
2
3 for file in $HOME/*
4 do
5   chmod +x "$file"
6 done
7
8 echo "Execute permission added."
9

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mychmod.sh
  Execute permission added.
● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ █

```

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



```

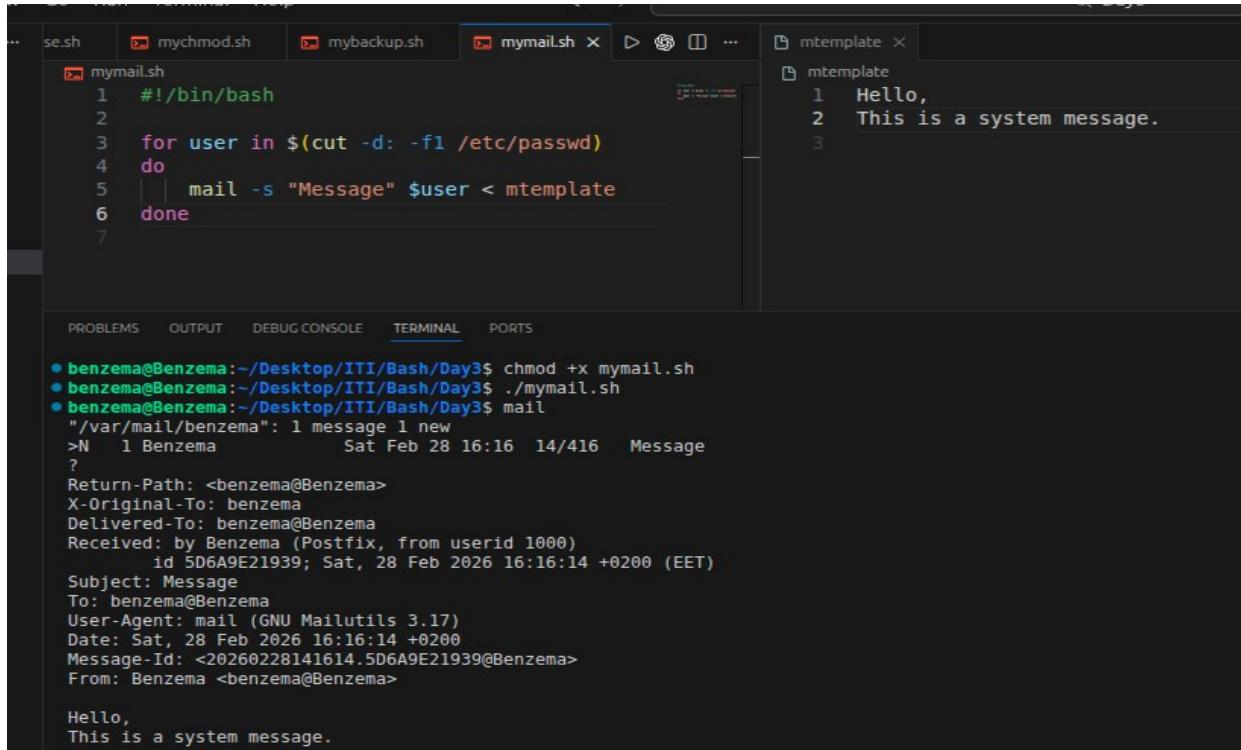
mycase.sh mychmod.sh mybackup.sh x
mybackup.sh
1 #!/bin/bash
2
3 mkdir -p ~/backup
4
5 for file in $HOME/*
6 do
7   if [ -f "$file" ]
8   then
9     cp "$file" ~/backup/
10   fi
11 done
12
13 echo "Backup completed."
14

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x mybackup.sh
● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mybackup.sh
  Backup completed.
● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ █

```

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.



```

mymail.sh
1 #!/bin/bash
2
3  for user in $(cut -d: -f1 /etc/passwd)
4  do
5    | mail -s "Message" $user < mtemplate
6  done
7

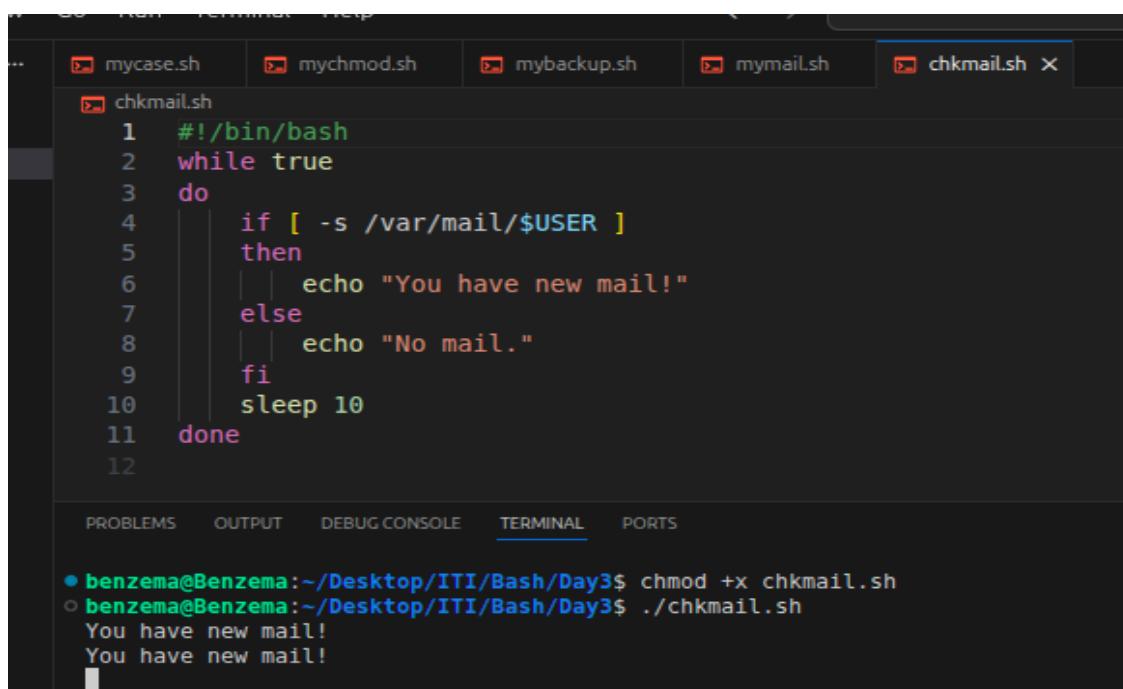
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x mymail.sh
● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./mymail.sh
● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ mail
"/var/mail/benzema": 1 message 1 new
>N 1 Benzema Sat Feb 28 16:16 14/416 Message
?
Return-Path: <benzema@Benzema>
X-Original-To: benzema
Delivered-To: benzema@Benzema
Received: by Benzema (Postfix, from userid 1000)
          id 5D6A9E21939; Sat, 28 Feb 2026 16:16:14 +0200 (EET)
Subject: Message
To: benzema@Benzema
User-Agent: mail (GNU Mailutils 3.17)
Date: Sat, 28 Feb 2026 16:16:14 +0200
Message-ID: <>20260228141614.5D6A9E21939@Benzema>
From: Benzema <benzema@Benzema>

Hello,
This is a system message.

```

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



```

chkmail.sh
1 #!/bin/bash
2 while true
3 do
4   if [ -s /var/mail/$USER ]
5   then
6     echo "You have new mail!"
7   else
8     echo "No mail."
9   fi
10  sleep 10
11 done
12

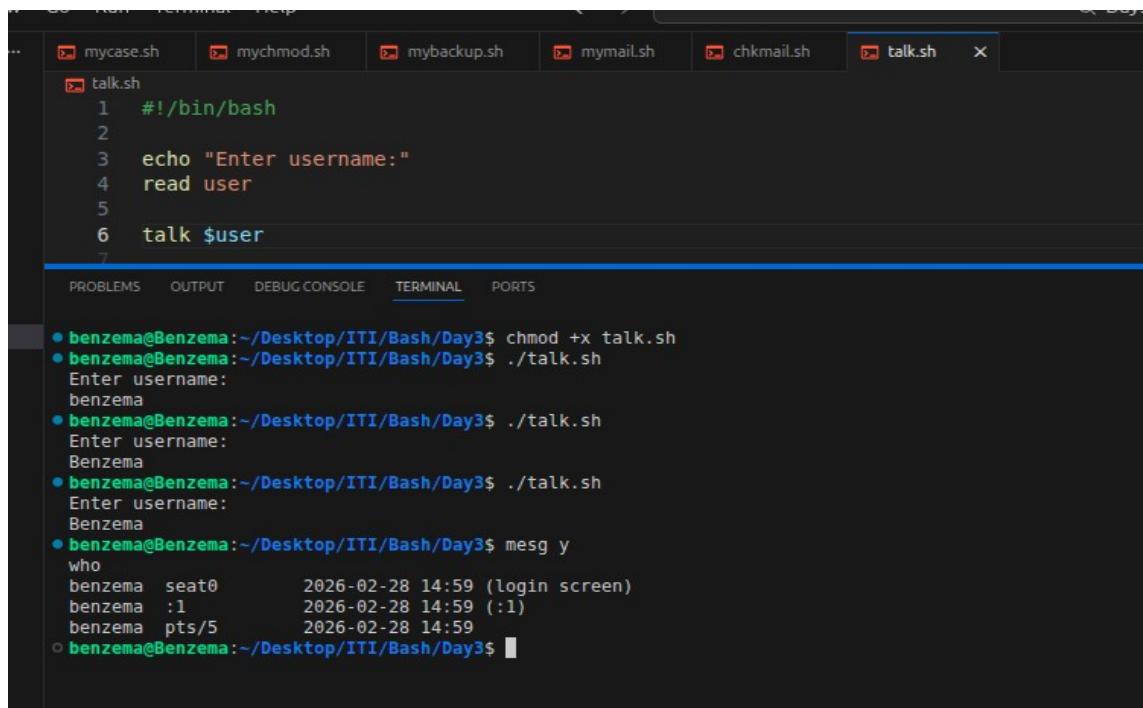
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

● benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x chkmail.sh
○ benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./chkmail.sh
You have new mail!
You have new mail!

```

Bonus:

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



The screenshot shows a terminal window with several tabs at the top: mycase.sh, mychmod.sh, mybackup.sh, mymail.sh, chkmail.sh, and talk.sh. The talk.sh tab is active. Below the tabs, the code for talk.sh is displayed:

```
#!/bin/bash
echo "Enter username:"
read user
talk $user
```

Below the code, the terminal output shows three executions of the script:

- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$ chmod +x talk.sh
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./talk.sh
Enter username:
benzema
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./talk.sh
Enter username:
Benzema
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./talk.sh
Enter username:
Benzema
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$ mesg y
who
benzema seat0 2026-02-28 14:59 (login screen)
benzema :1 2026-02-28 14:59 (:1)
benzema pts/5 2026-02-28 14:59
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$

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
```

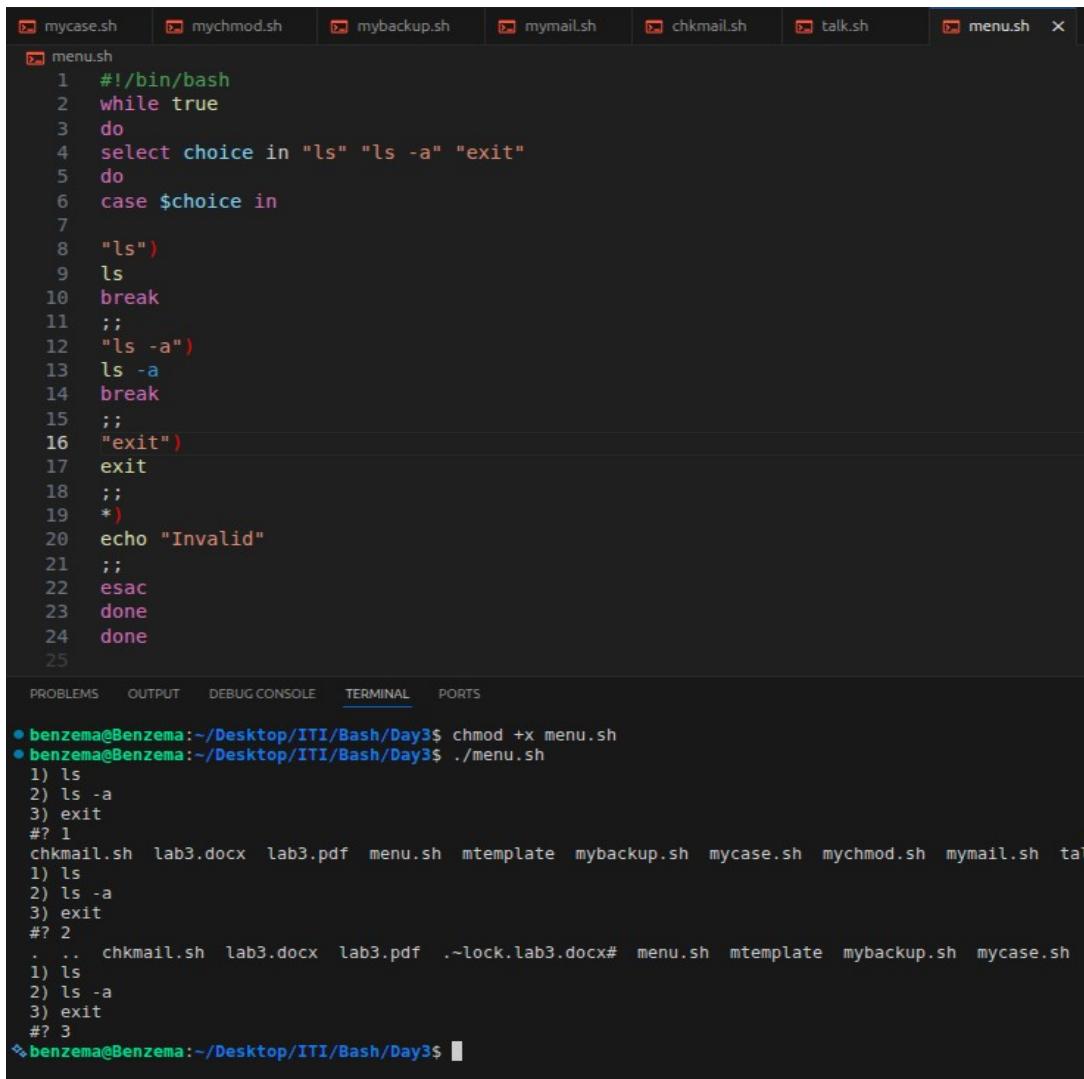
The output is:

```
1
1
1
1
1
1
(infinite loop)
```

8. Create the following menu:

- Press 1 to ls
- Press 2 to ls -a
- Press 3 to exit

Using select utility then while utility.



The screenshot shows a terminal window with several tabs at the top: mycase.sh, mychmod.sh, mybackup.sh, mymail.sh, chkmail.sh, talk.sh, and menu.sh. The menu.sh tab is active. The code in menu.sh is as follows:

```
1  #!/bin/bash
2  while true
3  do
4  select choice in "ls" "ls -a" "exit"
5  do
6  case $choice in
7
8  "ls")
9  ls
10 break
11 ;;
12 "ls -a")
13 ls -a
14 break
15 ;;
16 "exit")
17 exit
18 ;;
19 *) echo "Invalid"
20 ;;
21 esac
22 done
23 done
24 done
25
```

Below the code, there are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The TERMINAL tab is selected. The terminal history shows:

- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$ chmod +x menu.sh
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./menu.sh

The terminal then displays a menu:

```
1) ls
2) ls -a
3) exit
#? 1
chkmail.sh lab3.docx lab3.pdf menu.sh mtemplate mybackup.sh mycase.sh mychmod.sh mymail.sh tail
1) ls
2) ls -a
3) exit
#? 2
. . . chkmail.sh lab3.docx lab3.pdf .~lock.lab3.docx# menu.sh mtemplate mybackup.sh mycase.sh
1) ls
2) ls -a
3) exit
#? 3
```

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
1  #!/bin/bash
2
3  echo "How many elements?"
4  read n
5  for ((i=0;i<n;i++))
6  do
7      echo "Enter element:"
8      read arr[i]
9  done
10 echo "Array contents:"
11
12 for ((i=0;i<n;i++))
13 do
14     echo ${arr[i]}
15 done
16
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$ chmod +x myarr.sh
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./myarr.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

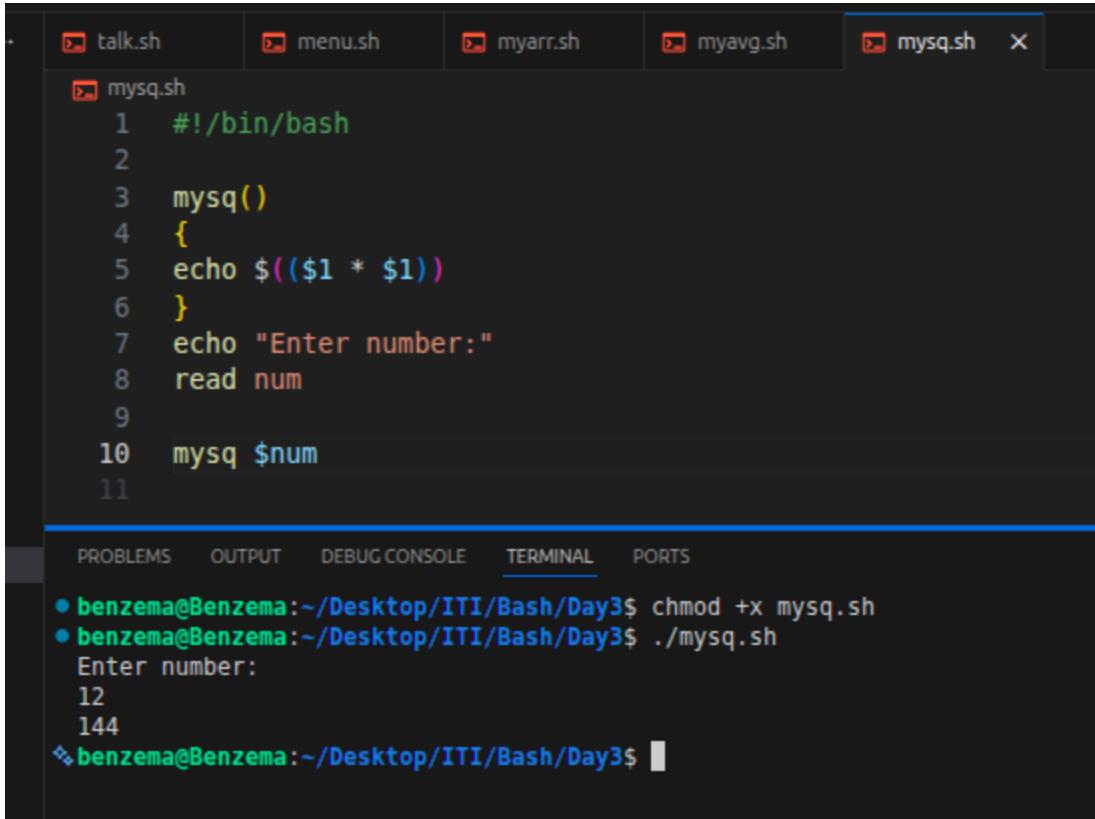
```
talk.sh  menu.sh  myarr.sh  myavg.sh
myavg.sh
myavg.sh
1  #!/bin/bash
2
3  echo "How many numbers?"
4  read n
5  sum=0
6
7  for ((i=0;i<n;i++))
8  do
9      read arr[i]
10     sum=$((sum + arr[i]))
11  done
12  avg=$((sum / n))
13  echo "Average = $avg"
14
```

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

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



The screenshot shows a terminal window with several tabs at the top: talk.sh, menu.sh, myarr.sh, myavg.sh, and mysq.sh (which is currently selected). Below the tabs is the script content:

```
mysq.sh
1  #!/bin/bash
2
3  mysq()
4  {
5  echo $(( $1 * $1 ))
6  }
7  echo "Enter number:"
8  read num
9
10 mysq $num
11
```

Below the script, there are five tabs: PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The TERMINAL tab is selected, showing the following session:

- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$ chmod +x mysq.sh
- benzema@Benzema:~/Desktop/ITI/Bash/Day3\$./mysq.sh

Enter number:
12
144

↳ benzema@Benzema:~/Desktop/ITI/Bash/Day3\$