



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
23
```

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 "$str" in
5      "")
6          echo "Nothing"
7          ;;
8      [A-Z]*)
9          if [[ "$str" =~ ^[A-Z]+$ ]]; then
10             echo "Upper Cases"
11          else
12             echo "Mix"
13          fi
14          ;;
15      [a-z]*)
16          if [[ "$str" =~ ^[a-z]+$ ]]; then
17             echo "Lower Cases"
18          else
19             echo "Mix"
20          fi
21          ;;
22      [0-9]*)
23          if [[ "$str" =~ ^[0-9]+$ ]]; then
24             echo "Numbers"
25          else
26             echo "Mix"
27          fi
28          ;;
29      *)
30          echo "Mix"
31          ;;
32  esac
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
❖ 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.

```

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$

```

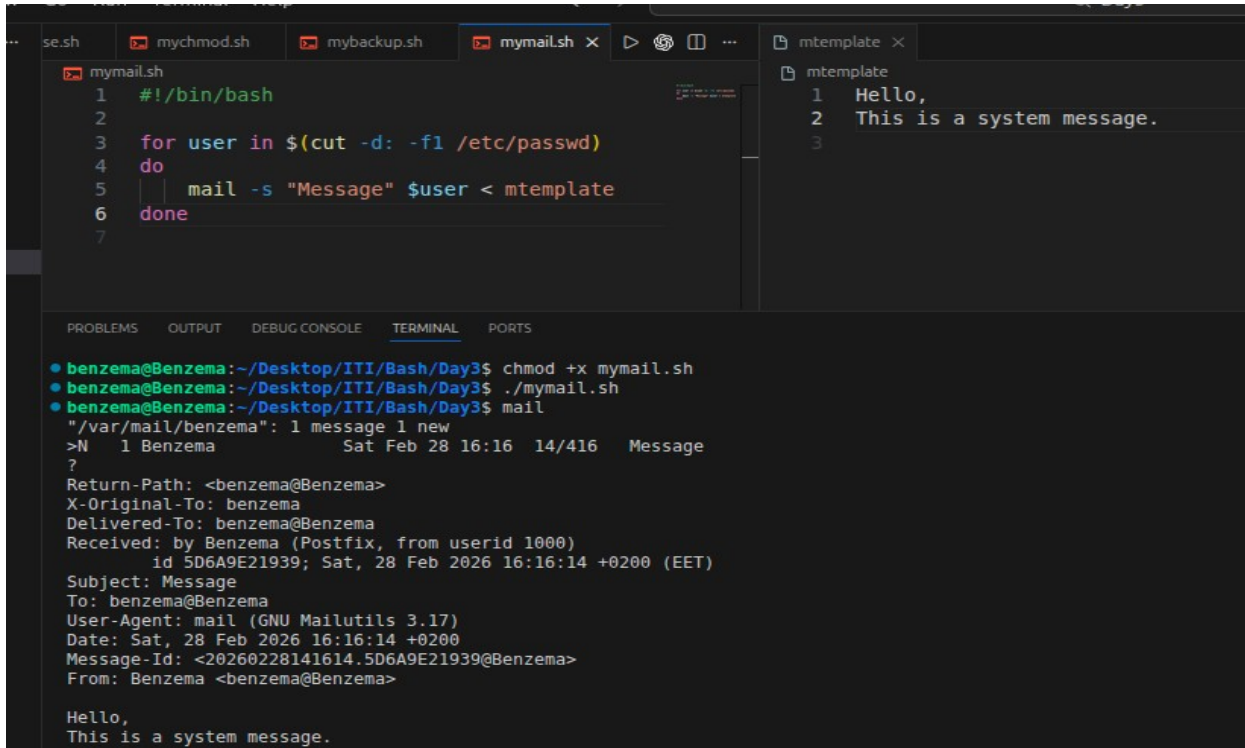
- Write a script called mybackup using for utility to create a backup of only files in your home directory.

```

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$

```

- 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

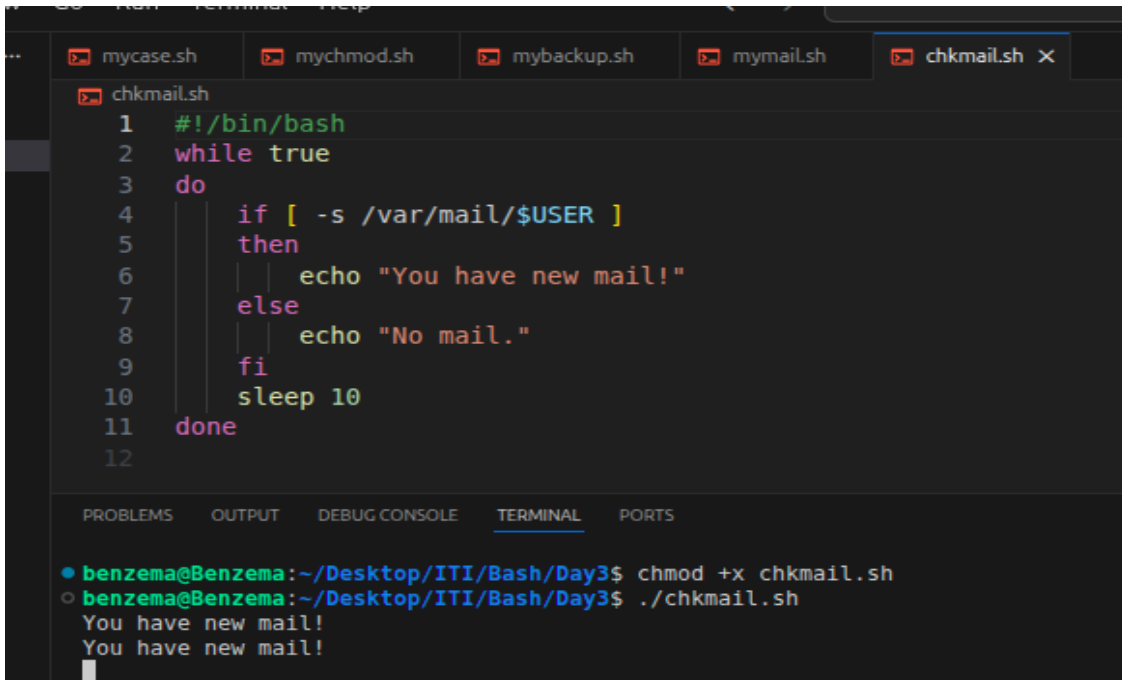
mtemplate
1  Hello,
2  This is a system message.
3

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.

```

- 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

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.

```

talk.sh
1  #!/bin/bash
2
3  echo "Enter username:"
4  read user
5
6  talk $user
7

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

(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.

```

mycase.sh  mychmod.sh  mybackup.sh  mymail.sh  chkmail.sh  talk.sh  menu.sh
menu.sh
1  #!/bin/bash
2  while true
3  do
4    select choice in "ls" "ls -a" "exit"
5    do
6      case $choice in
7
8        "ls")
9          ls
10         break
11        ;;
12        "ls -a")
13          ls -a
14          break
15         ;;
16        "exit")
17          exit
18         ;;
19        *)
20          echo "Invalid"
21         ;;
22        esac
23      done
24    done
25
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
• benzema@Benzema:~/Desktop/ITI/Bash/Day3$ chmod +x menu.sh
• benzema@Benzema:~/Desktop/ITI/Bash/Day3$ ./menu.sh
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  ta
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
❖ benzema@Benzema:~/Desktop/ITI/Bash/Day3$

```


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.

```
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$ ./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

```
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
benzema@Benzema:~/Desktop/ITI/Bash/Day3$
```

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

```

talk.sh  menu.sh  myarr.sh  myavg.sh  mysq.sh X
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

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
• 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$

```