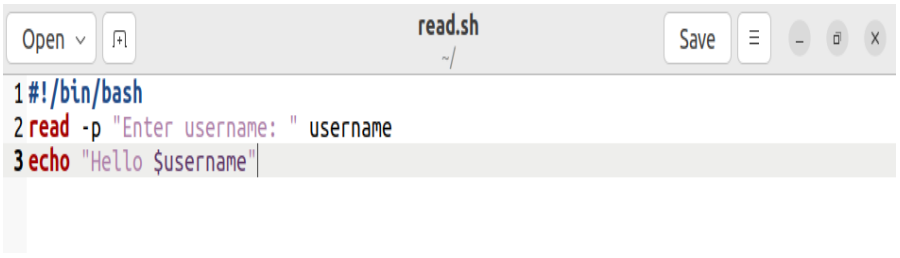
MODULE 3

ASSIGNMENT 1

1) **Write a simple Bash shell script to display the message "Welcome to Bash learning" and "**********" on separate lines.**

```
vboxuser@Ubuntu:~$ gedit learning.sh
vboxuser@Ubuntu:~$ ./learning.sh
bash: ./learning.sh: Permission denied
vboxuser@Ubuntu:~$ ./hello_world.sh
Hello World
/bin/bash
Monday 25 September 2023 06:36:58 PM IST
vboxuser@Ubuntu:~$ ./learning.sh
bash: ./learning.sh: Permission denied
vboxuser@Ubuntu:~$ chmod +x learning.sh
vboxuser@Ubuntu:~$ ./learning.sh
Welcome to Bash learning
**********
vboxuser@Ubuntu:~$
```

read.sh



ASSIGNMENT 2

1) Write a simple Bash program to get the following system variables:

a. pwd

b. logname

2) Write a simple Bash program:

a. To ask username from user

b. Exit the program, if user does not enter anything within 10 seconds

Hint: read -t 10 -p

2.

```
vboxuser@Ubuntu:~$ gedit read1.sh
vboxuser@Ubuntu:~$ chmod +x read1.sh
vboxuser@Ubuntu:~$ ./read1.sh
Enter username: Hello
vboxuser@Ubuntu:~$ ./read1.sh
Enter username: jb
Hello jb
```

Open ▾ read1.sh ~/ Save

```
1 #!/bin/bash
2 read -t 10 -p "Enter username: " username
3 echo "Hello $username"
```

1.

```
vboxuser@Ubuntu:~$ echo "$PWD"
/home/vboxuser
vboxuser@Ubuntu:~$ echo "$LOGNAME"
vboxuser
vboxuser@Ubuntu:~$
```

ASSIGNMENT 3

Command Line arguments and Quoting

1) Write a bash program for addition using command line arguments.

Open ▾ add.sh ~/ Save

```
1 #!/bin/bash
2
3 read -p "Enter num1": num1
4 read -p "Enter num2": num2
5
6 sum=$((num1+num2))
7
8 echo "The sum of $num1 and $num2 is: $sum"
```

```
vboxuser@Ubuntu:~$ gedit add.sh
vboxuser@Ubuntu:~$ chmod +x add.sh
vboxuser@Ubuntu:~$ bash add.sh
Enter num1:23
Enter num2:24
The sum of 23 and 24 is: 47
vboxuser@Ubuntu:~$
```

ASSIGNMENT 4

Globbing and Export statement

1) Write a Bash script to do all operations discussed under Globbing

Concepts under globbing:

```
vboxuser@Ubuntu:~$ ls *.sh
add.sh              hello_world.sh  local_variable.sh  read.sh
global_variable.sh  learning.sh     read1.sh
vboxuser@Ubuntu:~$ ls *.txt
alphabets.txt        error_log.txt  names.txt    somputer_student.txt
civil.txt            excercise.txt  notpass.txt  test_link.txt
comp.txt             exercise.txt   numbers.txt
conctenatedfile.txt  grepdemo.txt   number.txt
electro.txt          marks.txt      seddemo.txt
vboxuser@Ubuntu:~$ chmod +x civil.txt
vboxuser@Ubuntu:~$ ls *.txt
alphabets.txt        error_log.txt  names.txt    somputer_student.txt
civil.txt            excercise.txt  notpass.txt  test_link.txt
comp.txt             exercise.txt   numbers.txt
conctenatedfile.txt  grepdemo.txt   number.txt
electro.txt          marks.txt      seddemo.txt
vboxuser@Ubuntu:~$ ls [a-c]*.sh
add.sh
vboxuser@Ubuntu:~$ ls [a-c]*.txt
alphabets.txt  civil.txt  comp.txt  conctenatedfile.txt
vboxuser@Ubuntu:~$ ls [^a-c]*.sh
global_variable.sh  learning.sh        read1.sh
hello_world.sh      local_variable.sh  read.sh
vboxuser@Ubuntu:~$ ls [^a-c]*.txt
electro.txt    exercise.txt  names.txt    number.txt           test_link.txt
error_log.txt  grepdemo.txt  notpass.txt  seddemo.txt
excercise.txt  marks.txt     numbers.txt  somputer_student.txt
vboxuser@Ubuntu:~$ ls [Aa]*.sh
add.sh
```

ASSIGNMENT 5

Array Operations in BASH

1) Declare an Array names of length 7 and find

a. The total number of elements

b. Print all the elements

c. Print the 5th element

```
vboxuser@Ubuntu:~$ bash array1.sh
Total number of elements in an array Linux: 7

The elements of array fruits are: guava orange apple pomegranate grapes banana mang
o

The fifth element in array fruits: grapes

The length of fifth element in array fruits: 6
```

Open | array1.sh ~/ | Save

array.sh | array1.sh

```
1 #!/bin/bash
2
3 declare -a fruits=('guava' 'orange' 'apple' 'pomegranate' 'grapes' 'banana'
  'mango')
4
5 echo -e "Total number of elements in an array Linux: ${#fruits[@]} \n"
6
7 echo -e "The elements of array fruits are: ${fruits[@]} \n"
8
9 echo -e "The fifth element in array fruits: ${fruits[4]} \n"
10
11 echo -e "The length of fifth element in array fruits: ${#fruits[4]} \n"
```

ASSIGNMENT 6

Conditional execution

1) Write a script which will take your name as an input.

2) It should check this name with your system's username.

3) If the username matches, it should greet you by displaying "Hello".

4) Else, it should display "Try again"

HINT: Your system's username is stored in a variable $USER

Open ▾ | username.sh ~/ | Save

```
#!/bin/bash

USER="jyotsna"
read  -p "Enter username: " username
if [ "$username" == "$USER" ];
then
   echo -e "\n Hello $username"
else
   echo -e "\n Try again"
fi
```

```
vboxuser@Ubuntu:~$ gedit username.sh

vboxuser@Ubuntu:~$
vboxuser@Ubuntu:~$ chmod +x usename.sh
chmod: cannot access 'usename.sh': No such file or directory
vboxuser@Ubuntu:~$ chmod +x username.sh
vboxuser@Ubuntu:~$ bash username.sh
Enter username: jyotsna

 Hello jyotsna
vboxuser@Ubuntu:~$ bash username.sh
Enter username: jyo

 Try again
vboxuser@Ubuntu:~$
```

ASSIGNMENT 7

Nested and multilevel if elseif statements

1) Write a program to output different messages when number is:

a. Greater than 3

b. Lesser than 3

c. Or equal to 3

d. Or when the user input is empty

Open ifelse2.sh ~/ Save

```
#!bin/bash
n=3
read -p "Enter a Number: " num
if [ "$num" -gt "$n" ];
then
   echo "Greater than 3"
elif [ "$num" -lt "$n" ];
then
   echo "Lesser than 3"
elif [ "$num" -eq "$n" ];
then
   echo "Equal to 3"
else
   echo "the user input is empty"
fi
```

```
vboxuser@Ubuntu:~$ gedit ifelse2.sh
vboxuser@Ubuntu:~$ chmod +x ifelse2.sh
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number: 4
Greater than 3
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number: 5
Greater than 3
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number: 2
Lesser than 3
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number: 3
Equal to 3
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number:
ifelse2.sh: line 4: [: : integer expression expected
ifelse2.sh: line 7: [: : integer expression expected
ifelse2.sh: line 10: [: : integer expression expected
the user input is empty
vboxuser@Ubuntu:~$ bash ifelse2.sh
Enter a Number: -1
Lesser than 3
vboxuser@Ubuntu:~$
```