

OS Lab 3:

24k-0810

Activities Terminal Feb 6 8:35 AM student@Lab3W: ~/Desktop

```
student@Lab3W: $ cd Desktop
student@Lab3W:~/Desktop$ rm *
rm: cannot remove 'hello': Is a directory
student@Lab3W:~/Desktop$ rm hello
rm: cannot remove 'hello': Is a directory
student@Lab3W:~/Desktop$ rm -r hello
student@Lab3W:~/Desktop$ ls
student@Lab3W:~/Desktop$ /bin/sh
$ date
Fri Feb 6 08:19:20 AM PKT 2026
$ date: pwd
/bin/sh: 2: date:: not found
$ date;pwd
Fri Feb 6 08:19:51 AM PKT 2026
/home/student/Desktop
$ exit
student@Lab3W:~/Desktop$ nano file1.sh
student@Lab3W:~/Desktop$ ./shell.sh
bash: ./shell.sh: No such file or directory
student@Lab3W:~/Desktop$ ./file1.sh
bash: ./file1.sh: Permission denied
student@Lab3W:~/Desktop$ chmod +x
chmod: missing operand after '+x'
Try 'chmod --help' for more information.
student@Lab3W:~/Desktop$ chmod +x file1.sh
student@Lab3W:~/Desktop$ ./file1.sh
hellow from shelly shell script
student@Lab3W:~/Desktop$ nano file2.sh
student@Lab3W:~/Desktop$ chmod +x file2.sh
student@Lab3W:~/Desktop$ ./file2.sh
hello world
The message is: hello world
student@Lab3W:~/Desktop$
```

Activities Terminal Feb 6 8:52 AM student@Lab3W: ~/Desktop

```
The message is: hello world
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ chmod +x file3.sh
student@Lab3W:~/Desktop$ ./file3.sh
Enter a number:
4
./file3.sh: line 10: unexpected EOF while looking for matching `'''
./file3.sh: line 13: syntax error: unexpected end of file
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ y
y: command not found
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ ./file3.sh
Enter a number:
4
You have entered the number: 4
Enter your first name: bashair
You have entered the first name: bashair
Enter your first name and last name: bashair yaqoob
First Name: bashair LastName: yaqoob
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ ./file3.sh
Enter a number:
4
You have entered the number: 4
Enter your first name: s
You have entered the first name: s
Enter your first name and last name: sk
First Name: sk LastName: student@Lab3W:~/Desktop$ ./file3.sh
Enter a number:
4
You have entered the number: 4
Enter your first name: shahira
You have entered the first name: shahira
Enter your first name and last name: bashair yaqoob
First Name: bashair LastName: yaqoob
student@Lab3W:~/Desktop$ nano file3.sh
student@Lab3W:~/Desktop$ ./file3.sh
Enter a number:
4
```

Activities Terminal Feb 6 9:14 AM student@Lab3W: ~/Desktop

```
You have entered the first name: bashair
Enter your first name and last name: bashair yaqoob
First Name: bashair LastName: yaqoob
student@Lab3W:~/Desktop$ nano file4.sh
student@Lab3W:~/Desktop$ chmod +x file4.sh
student@Lab3W:~/Desktop$ ./file4.sh
Twice the number is 20
Twice the Number Plus 1 is 21
./file4.sh: line 6: syntax error near unexpected token `(
./file4.sh: line 6: `DoubleQPlus1=2*($Num+1))'
student@Lab3W:~/Desktop$ nano file4.sh
student@Lab3W:~/Desktop$ ./file4.sh
Twice the number is 20
Twice the Number Plus 1 is 21
Twice the number plus 1 is 22
./file4.sh: line 8: (( half=/2: syntax error: operand expected (error token is "/2")
Half the number is
student@Lab3W:~/Desktop$ nano file4.sh
student@Lab3W:~/Desktop$ ./file4.sh
Twice the number is 20
Twice the Number Plus 1 is 21
Twice the number plus 1 is 22
Half the number is 5
student@Lab3W:~/Desktop$ nano file5.sh
student@Lab3W:~/Desktop$ chmod +x file5.sh
student@Lab3W:~/Desktop$ ./file5.sh
Enter First Number: 5
Enter Second Number: 6
./file5.sh: line 3: 6]]: No such file or directory
./file5.sh: line 5: [[5: command not found
5 is equal to 6
student@Lab3W:~/Desktop$ nano file5.sh
student@Lab3W:~/Desktop$ nano file5.sh
student@Lab3W:~/Desktop$ ./file5.sh
Enter First Number: 4
Enter Second Number: 5
4 is smaller than 5
student@Lab3W:~/Desktop$ 
```

Activities Terminal Feb 6 9:32 AM student@Lab3W: ~/Desktop

```
Enter First Number: 5
Enter Second Number: 6
./file5.sh: line 3: 6]]: No such file or directory
./file5.sh: line 5: [[5: command not found
5 is equal to 6
student@Lab3W:~/Desktop$ nano file5.sh
student@Lab3W:~/Desktop$ nano file5.sh
student@Lab3W:~/Desktop$ ./file5.sh
Enter First Number: 4
Enter Second Number: 5
4 is smaller than 5
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ chmod +x file6.sh
student@Lab3W:~/Desktop$ ./file6.sh
Enter the starting balance: 25
Menu options
a)Deposit
b)Withdraw
Enter your selection:a
Enter the deposit amount:25
The final balance is: 25
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ ./file6.sh
Enter the starting balance: 25
Menu options
a)Deposit
b)Withdraw
Enter your selection:a
Enter the deposit amount:25
The final balance is: 50
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ y
y: command not found
student@Lab3W:~/Desktop$ nano file7.sh
student@Lab3W:~/Desktop$ chmod +x file7.sh
student@Lab3W:~/Desktop$ 
```

Activities Terminal Feb 6 9:34 AM

```
student@Lab3W: ~/Desktop
a)Deposit
b)Withdraw

Enter your selection:a
Enter the deposit amount:25
The final balance is: 25
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ ./file6.sh
Enter the starting balance: 25
Menu options
a)Deposit
b)Withdraw

Enter your selection:a
Enter the deposit amount:25
The final balance is: 50
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ y
y: command not found
student@Lab3W:~/Desktop$ nano file7.sh
student@Lab3W:~/Desktop$ chmod +x file7.sh
student@Lab3W:~/Desktop$ ./file7.sh
Enter the number of directories to be created: 2
Enter the name of the directory: shahira
Enter the name of the directory: shahirakhan
Enter the name of the directory: khan
Enter the name of the directory: ^Z
[1]+ Stopped                  ./file7.sh
student@Lab3W:~/Desktop$ nano file7.sh
student@Lab3W:~/Desktop$ ./file7.sh
Enter the number of directories to be created: 2
Enter the name of the directory: shahira1
Enter the name of the directory: shahira2
student@Lab3W:~/Desktop$ ls
6]]    file3.sh  file6.sh  shahira  shahirakhan
file1.sh  file4.sh  file7.sh  shahira1
file2.sh  file5.sh  khan     shahira2
student@Lab3W:~/Desktop$ 
```

Activities Terminal Feb 6 9:40 AM

```
student@Lab3W: ~/Desktop
b)Withdraw

Enter your selection:a
Enter the deposit amount:25
The final balance is: 50
student@Lab3W:~/Desktop$ nano file6.sh
student@Lab3W:~/Desktop$ y
y: command not found
student@Lab3W:~/Desktop$ nano file7.sh
student@Lab3W:~/Desktop$ chmod +x file7.sh
student@Lab3W:~/Desktop$ ./file7.sh
Enter the number of directories to be created: 2
Enter the name of the directory: shahira
Enter the name of the directory: shahirakhan
Enter the name of the directory: khan
Enter the name of the directory: ^Z
[1]+ Stopped                  ./file7.sh
student@Lab3W:~/Desktop$ nano file7.sh
student@Lab3W:~/Desktop$ ./file7.sh
Enter the number of directories to be created: 2
Enter the name of the directory: shahira1
Enter the name of the directory: shahira2
student@Lab3W:~/Desktop$ ls
6]]    file3.sh  file6.sh  shahira  shahirakhan
file1.sh  file4.sh  file7.sh  shahira1
file2.sh  file5.sh  khan     shahira2
student@Lab3W:~/Desktop$ nano file8.sh
student@Lab3W:~/Desktop$ chmod +x file8.sh
student@Lab3W:~/Desktop$ ./file8.sh
Enter two whole numbers, Separated by space: 2 4
The smallest is:
student@Lab3W:~/Desktop$ chmod +x file8.sh
student@Lab3W:~/Desktop$ nano file8.sh
student@Lab3W:~/Desktop$ nano file8.sh
student@Lab3W:~/Desktop$ ./file8.sh
Enter two whole numbers, Separated by space: 2 4
The smallest is: 2
student@Lab3W:~/Desktop$ 
```

Activities Terminal Feb 6 9:53 AM student@Lab3W: ~/Desktop

```
student@Lab3W:~/Desktop$ ./file8.sh
Enter two whole numbers, Separated by space: 2 4
The smallest is: 2
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ mkdir SRC_DIR
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ cd SRC_DIR
student@Lab3W:~/Desktop/SRC_DIR$ ls
student@Lab3W:~/Desktop/SRC_DIR$ touch text1.txt
student@Lab3W:~/Desktop/SRC_DIR$ touch text2.txt
student@Lab3W:~/Desktop/SRC_DIR$ ls
text1.txt text2.txt
student@Lab3W:~/Desktop/SRC_DIR$ cd ..
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ mkdir DST_DIR
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ rm -r DST_DIR
student@Lab3W:~/Desktop$ ls
6]]      file3.sh file6.sh file9.sh shahirai      SRC_DIR
file1.sh file4.sh file7.sh khan      shahira2
file2.sh file5.sh file8.sh shahira  shahirakhan
student@Lab3W:~/Desktop$ chmod +x file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
bash: ./file9.sh: bin/bash: bad interpreter: No such file or directory
student@Lab3W:~/Desktop$ pwd
/home/student/Desktop
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
cp: cannot create regular file '/home/student/Desktop/DST_DIR': No such file or directory
cp: cannot create regular file '/home/student/Desktop/DST_DIR': No such file or directory
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
student@Lab3W:~/Desktop$ ls
6]]      file2.sh file5.sh file8.sh khan      shahira2
DST_DIR  file3.sh file6.sh file9.sh shahira  shahirakhan
file1.sh file4.sh file7.sh home     shahirai  SRC_DIR
student@Lab3W:~/Desktop$ 
```

Activities Terminal Feb 6 10:06 AM student@Lab3W: ~/Desktop

```
student@Lab3W:~/Desktop/SRC_DIR$ touch text2.txt
student@Lab3W:~/Desktop/SRC_DIR$ ls
text1.txt text2.txt
student@Lab3W:~/Desktop/SRC_DIR$ cd ..
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ mkdir DST_DIR
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ rm -r DST_DIR
student@Lab3W:~/Desktop$ ls
6]]      file3.sh file6.sh file9.sh shahirai      SRC_DIR
file1.sh file4.sh file7.sh khan      shahira2
file2.sh file5.sh file8.sh shahira  shahirakhan
student@Lab3W:~/Desktop$ chmod +x file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
bash: ./file9.sh: bin/bash: bad interpreter: No such file or directory
student@Lab3W:~/Desktop$ pwd
/home/student/Desktop
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
cp: cannot create regular file '/home/student/Desktop/DST_DIR': No such file or directory
cp: cannot create regular file '/home/student/Desktop/DST_DIR': No such file or directory
student@Lab3W:~/Desktop$ nano file9.sh
student@Lab3W:~/Desktop$ ./file9.sh
student@Lab3W:~/Desktop$ ls
6]]      file2.sh file5.sh file8.sh khan      shahira2
DST_DIR  file3.sh file6.sh file9.sh shahira  shahirakhan
file1.sh file4.sh file7.sh home     shahirai  SRC_DIR
student@Lab3W:~/Desktop$ nano file10.sh
student@Lab3W:~/Desktop$ chmod +x file10.sh
student@Lab3W:~/Desktop$ ./file10.sh
student@Lab3W:~/Desktop$ ls
6]]      file2.sh file6.sh home      shahira2
DST_DIR  file3.sh file7.sh khan      shahirakhan
file10.sh file4.sh file8.sh shahira  SRC_DIR
file1.sh  file5.sh file9.sh shahirai
student@Lab3W:~/Desktop$ cat file1.sh
echo "hellow from shelly shell script";
```

File content:

```
Activities Terminal Feb 6 10:07 AM student@Lab3W: ~/Desktop
student@Lab3W:~/Desktop$ cat file1.sh
echo "Hello from shelly shell script";
student@Lab3W:~/Desktop$ cat file2.sh
X=1
y=100.25
message='hello world'

echo $message
newMessage=$message
echo "The message is: $newMessage"
student@Lab3W:~/Desktop$ cat file3.sh
# printing a prompt and reading input
echo "Enter a number: "
read num
echo "You have entered the number: $num"
# alternative of read to print a prompt and read input
read -p "Enter your first name: " FirstName
echo "You have entered the first name: " $FirstName
# utilizing read to print a prompt and read input into two variables
read -p "Enter your first name and last name: " FirstName LastName
echo -n "First Name: $FirstName" "Last Name: "
echo -n $LastName
echo ""

student@Lab3W:~/Desktop$ cat file4.sh
Num=10
((Double=2*$Num))
echo "Twice the number is $Double"
((DoublePlus1=2*$Num+1))
echo "Twice the Number Plus 1 is $DoublePlus1"
((DoubleQPlus1=2*($Num+1)))
echo "Twice the number plus 1 is $DoubleQPlus1"
((half=$Num/2))
echo "Half the number is $half"
student@Lab3W:~/Desktop$ cat file5.sh
read -p "Enter First Number: " num1
read -p "Enter Second Number: " num2
```

Activities Terminal Feb 6 10:07 AM student@Lab3W: ~/Desktop

```
student@Lab3W:~/Desktop$ cat file5.sh
echo "Twice the number plus 1 is $DoubleQPlus1"
((half=$Num/2))
echo "Half the number is $half"
student@Lab3W:~/Desktop$ cat file6.sh
read -p "Enter First Number: " num1
read -p "Enter Second Number: " num2
if [[ $num1 < $num2 ]]; then
    echo "$num1 is smaller than $num2"
elif [[ $num1 > $num2 ]]; then
    echo $num1 "is greater than" $num2
else
    echo $num1 "is equal to" $num2
fi
student@Lab3W:~/Desktop$ cat file6.sh
read -p "Enter the starting balance: " balance
echo "Menu options"
echo "a)Deposit"
echo "b)Withdraw"; echo
read -p "Enter your selection:" selection
case $selection in
    a|A) read -p "Enter the deposit amount:" deposit
          (( balance = $balance + $deposit ))
          ;;
    b|B) read -p "Enter the withdraw amount:" withdraw
          (( balance = $balance - $withdraw ))
          ;;
    *) echo "ERROR!Invalid input was provided"
      ;;
esac
echo "The final balance is: $balance"
student@Lab3W:~/Desktop$ cat file7.sh
read -p "Enter the number of directories to be created: " numDir
while [[ $numDir > 0 ]]
do
    read -p "Enter the name of the directory: " dirName
    mkdir $dirName
    if [[ $? = 1 ]]; then
        echo "Directory creation failed"
    fi
    (( numDir-- ))
done
```

Activities Terminal Feb 6 10:08 AM student@Lab3W: ~/Desktop

```
student@Lab3W:~/Desktop$ cat file7.sh
read -p "Enter the number of directories to be created: " numDir
while [[ $numDir > 0 ]]
do
    read -p "Enter the name of the directory: " dirName
    mkdir $dirName
    if [[ $? = 1 ]]; then
        echo "Directory creation failed"
    fi
    (( numDir-- ))
done
student@Lab3W:~/Desktop$ cat file8.sh
Min() {
    if [[ $1 -lt $2 ]]; then
        Smallest=$1
    else
        Smallest=$2
    fi
}
read -p "Enter two whole numbers, Separated by space: " N1 N2
Min $N1 $N2
echo "The smallest is: " $Smallest
student@Lab3W:~/Desktop$ cat file9.sh
#!/bin/bash

SRC_DIR="/home/student/Desktop/SRC_DIR"
DST_DIR="/home/student/Desktop/DST_DIR"

if [ ! -d "$DST_DIR" ]; then
    mkdir -p "$DST_DIR"
fi

for file in "$SRC_DIR"/*; do
    cp "$file" "$DST_DIR"
done
```

Activities Terminal Feb 6 10:08 AM

```
student@Lab3W: ~/Desktop
else
    Smallest=$2
fi
}
read -p "Enter two whole numbers, Separated by space: " N1 N2
Min ${N1} ${N2}
echo "The smallest is: " $Smallest
student@Lab3W:~/Desktop$ cat file9.sh
#!/bin/bash

SRC_DIR="/home/student/Desktop/SRC_DIR"
DST_DIR="/home/student/Desktop/DST_DIR"

if [ ! -d "$DST_DIR" ]; then
    mkdir -p "$DST_DIR"
fi

for file in "$SRC_DIR"/*; do
    cp "$file" "$DST_DIR"
done

if [ ! -d "$SRC_DIR" ]; then
    echo "error: source directory does not exist"
    exit 1
fi
student@Lab3W:~/Desktop$ cat file10.sh
#!/bin/bash

process_data() {
    input_file=$1
    output_file=$(cut -f 1,3 $input_file | grep 'foo' | sort -n)
    echo $output_file
}

for file in /home/student/Desktop/SRC_DIR/*.txt; do
    processed_data=$(process_data $file)
    echo $processed_data > "${file}_processed.txt"
done
student@Lab3W:~/Desktop$
```

Activity 1:

Activities Terminal Feb 6 10:13 AM student@Lab3W: ~/Desktop

```
for file in "$SRC_DIR"/*; do
    cp "$file" "$DST_DIR"
done

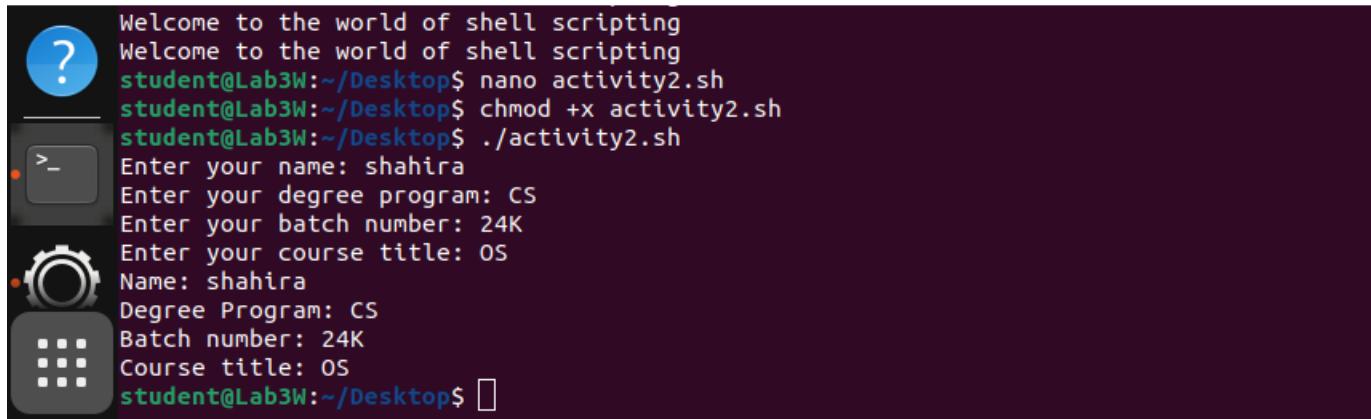
if [ ! -d "$SRC_DIR" ]; then
    echo "error: source directory does not exist"
    exit 1
fi
student@Lab3W:~/Desktop$ cat file10.sh
#!/bin/bash

process_data() {
    input_file=$1
    output_file=$(cut -f 1,3 $input_file | grep 'foo' | sort -n)
    echo $output_file
}
for file in /home/student/Desktop/SRC_DIR/*.txt; do
    processed_data=$(process_data $file)
    echo $processed_data > "${file}_processed.txt"
done
student@Lab3W:~/Desktop$ nano activity1.sh
student@Lab3W:~/Desktop$ chmod activity1.sh
chmod: missing operand after 'activity1.sh'
Try 'chmod --help' for more information.
student@Lab3W:~/Desktop$ chmod +x activity1.sh
student@Lab3W:~/Desktop$ ./activity1.sh
Welcome to the world of shell scripting
student@Lab3W:~/Desktop$ 
```

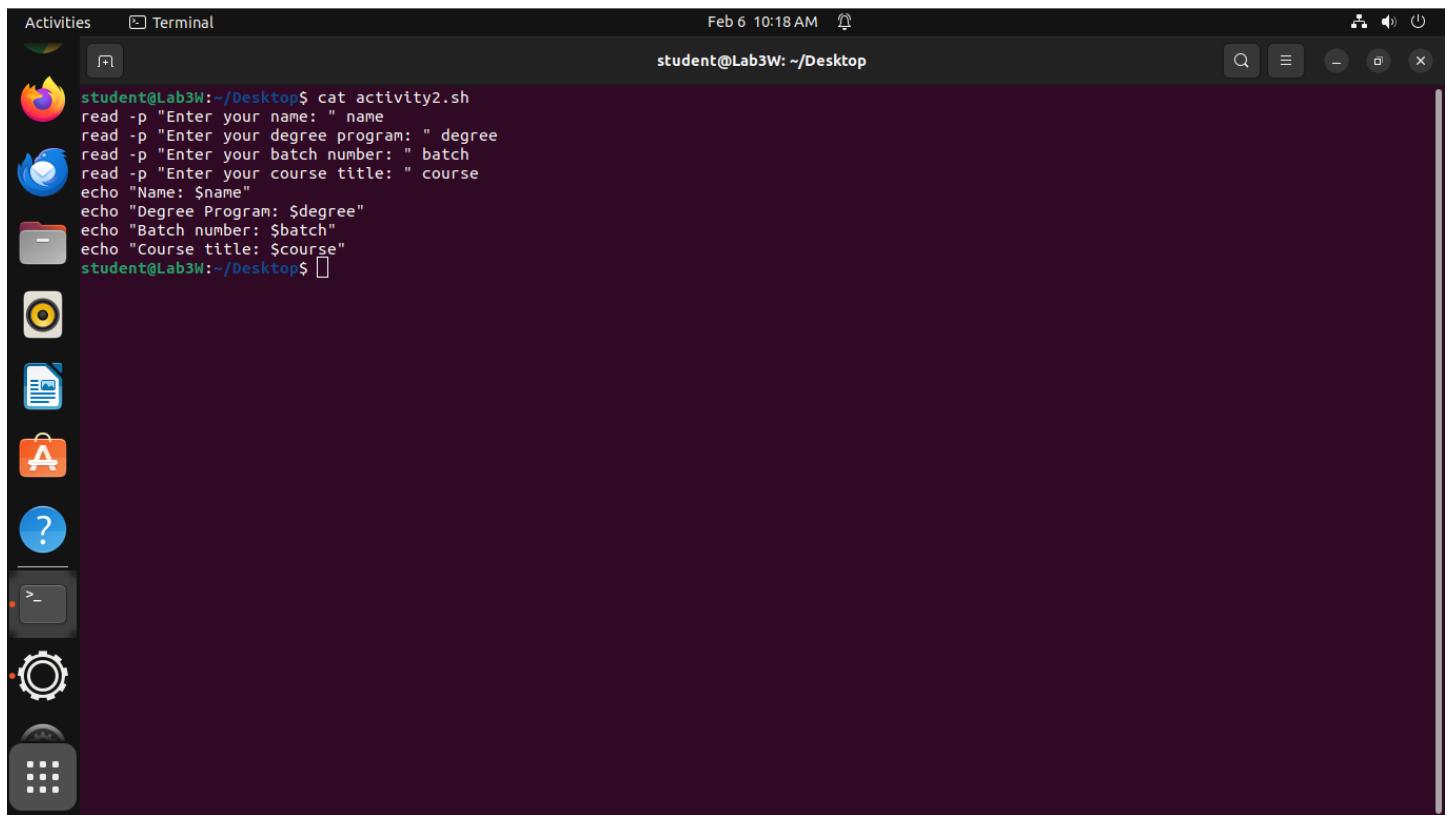
Activities Terminal Feb 6 10:17 AM student@Lab3W: ~/Desktop

```
student@Lab3W:~/Desktop$ cat activity1.sh
for i in {1..10}
    do
        echo "Welcome to the world of shell scripting"
done
student@Lab3W:~/Desktop$ 
```

Activity 2:

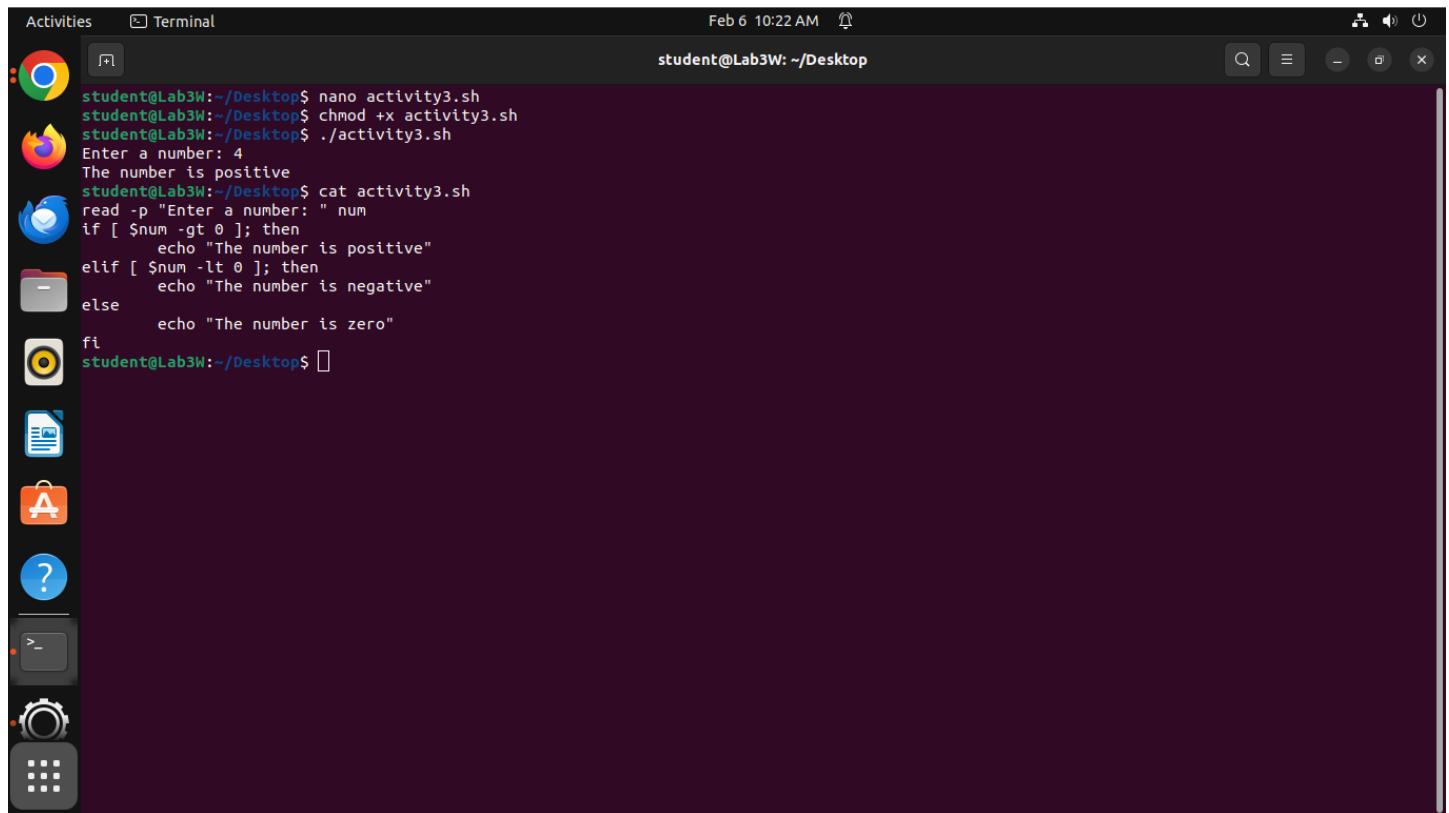


```
Welcome to the world of shell scripting
Welcome to the world of shell scripting
student@Lab3W:~/Desktop$ nano activity2.sh
student@Lab3W:~/Desktop$ chmod +x activity2.sh
student@Lab3W:~/Desktop$ ./activity2.sh
Enter your name: shahira
Enter your degree program: CS
Enter your batch number: 24K
Enter your course title: OS
Name: shahira
Degree Program: CS
Batch number: 24K
Course title: OS
student@Lab3W:~/Desktop$
```



```
Activities Terminal Feb 6 10:18 AM student@Lab3W: ~/Desktop
student@Lab3W:~/Desktop$ cat activity2.sh
read -p "Enter your name: " name
read -p "Enter your degree program: " degree
read -p "Enter your batch number: " batch
read -p "Enter your course title: " course
echo "Name: $name"
echo "Degree Program: $degree"
echo "Batch number: $batch"
echo "Course title: $course"
student@Lab3W:~/Desktop$
```

Activity 3:



A screenshot of an Ubuntu desktop environment. On the left, there's a dock with icons for a browser, file manager, terminal, and other applications. The main area shows a terminal window titled "Terminal" with the command-line interface of a student working on a script named "activity3.sh".

```
student@Lab3W:~/Desktop$ nano activity3.sh
student@Lab3W:~/Desktop$ chmod +x activity3.sh
student@Lab3W:~/Desktop$ ./activity3.sh
Enter a number: 4
The number is positive
student@Lab3W:~/Desktop$ cat activity3.sh
read -p "Enter a number: " num
if [ $num -gt 0 ]; then
    echo "The number is positive"
elif [ $num -lt 0 ]; then
    echo "The number is negative"
else
    echo "The number is zero"
fi
student@Lab3W:~/Desktop$ 
```