

# Experiment [4]: [Bash Scripting]

**Name:**Biswabandya Mohanty, Roll No.590029274, Date: 2025-09-05

## Aim:

- [To learn basics of bash scripting]

## Requirements

- [Any Linux Distro, any kind of text editor (vs code, vim, notepad, nano, etc)]

## Theory

- [To learn how to use bash scripting]

## procedure & Observations

### Exercise 1: [Hello world script]

### Task Statement: [Basic Usage of Shell Scripts]

**Explanation:** [I learnt how to do the basic shell scripting]

### Command(s):

```
#!/bin/bash  
echo "Hello, World!"
```

# Output:

```
Mint - VMware Workstation 17 Player
Player
biswa@biswa-virtual-machine: ~/Desktop/Linux lab
5 is a armstrong number
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ./armstrong.sh
enter number
33
33 is not a armstrong number
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ls
arithmetic.sh  armstrong.sh  expl.sh  greeting.sh  prime.sh  sum.sh  vote.sh
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ cat expl
cat: expl: No such file or directory
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ cat exp.sh
cat: exp.sh: No such file or directory
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ cat expl.sh
#!/bin/bash
echo "Hello World"
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ^C
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ./expl.sh
Hello World
biswa@biswa-virtual-machine:~/Desktop/Linux lab$
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ls
arithmetic.sh  armstrong.sh  expl.sh  greeting.sh  prime.sh  sum.sh  vote.sh
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ./expl.sh
Hello World
biswa@biswa-virtual-machine:~/Desktop/Linux lab$
```

## Exercise 2: [Personalized Greeting Script]

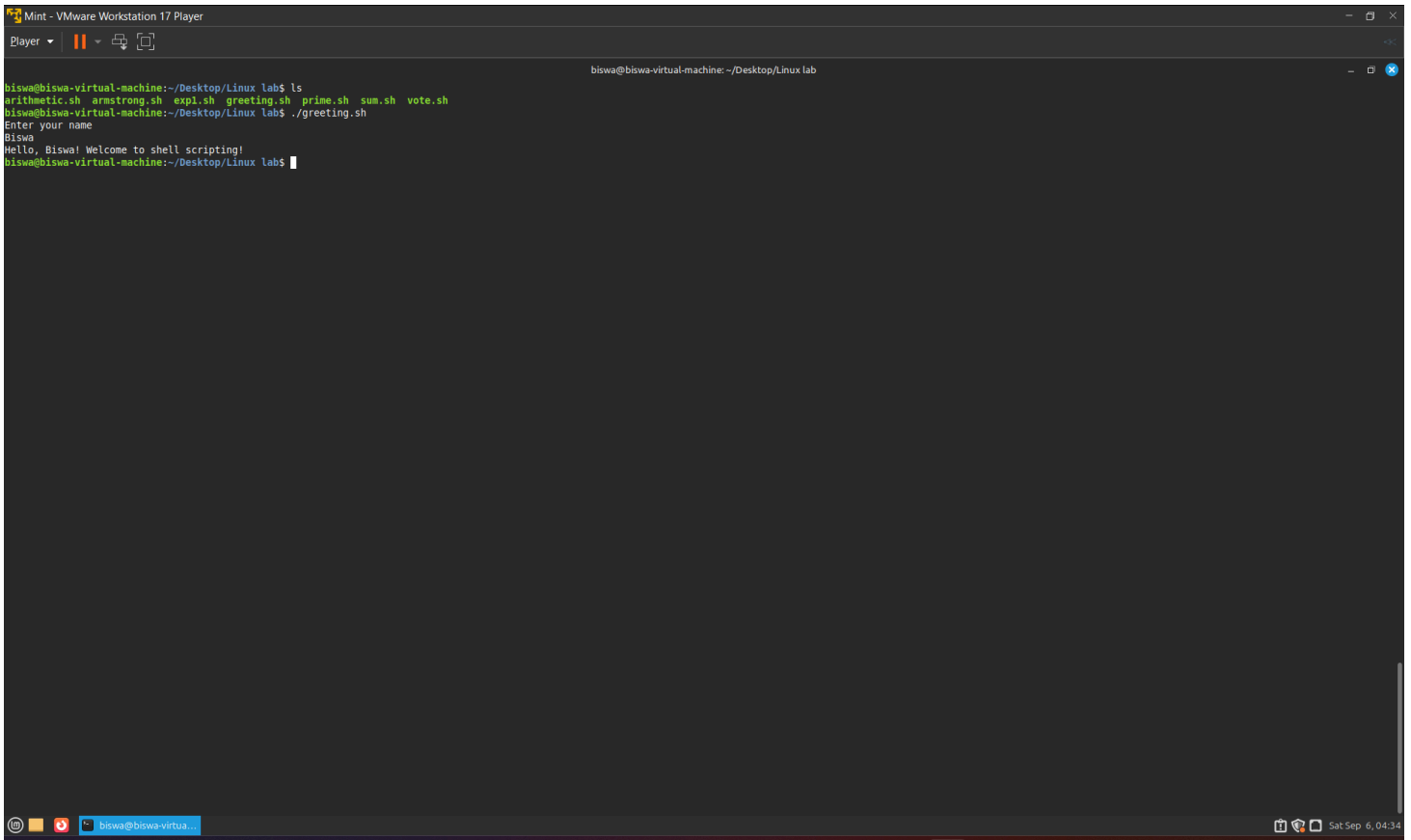
**Task Statement:** [Basic Shell Script to callout user defined function.]

**Explanation:** [The script will take input from the user and store it in a variable then give output of the stored value]

**Command(s):**

```
#!/bin/bash
echo "Enter your name: "
read name      # 'read' takes user input
echo "Hello, $name! Welcome to Shell Scripting."
```

# Output:



```
Mint - VMware Workstation 17 Player
Player
biswa@biswa-virtual-machine: ~/Desktop/Linux lab
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ls
arithmetic.sh  armstrong.sh  expl.sh  greeting.sh  prime.sh  sum.sh  vote.sh
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ./greeting.sh
Enter your name
Biswa
Hello, Biswa! Welcome to shell scripting!
biswa@biswa-virtual-machine:~/Desktop/Linux lab$
```

## Result

- [I learnt how to use the basic bash scripting.]

## Challenges Faced & Learning Outcomes

- Challenge 1: [I was facing issues in remembering how to call a variable].
- Challenge 2: [I was forgetting how to do looping and take input from users].
- Challenge 3: [I was forgetting how to do proper formatting in bash scripting.]

## Learning:

- How to take input from user
- Learnt proper way to use formatting in bash script

# Conclusion

- I learnt how to do bash scripting.

## Exercise 3: [Arithmetic Operations in Shell Scripting]

### Task Statement:

- [Using Basic Arithmetic Operations in Shell Scripts]

### Explanation:

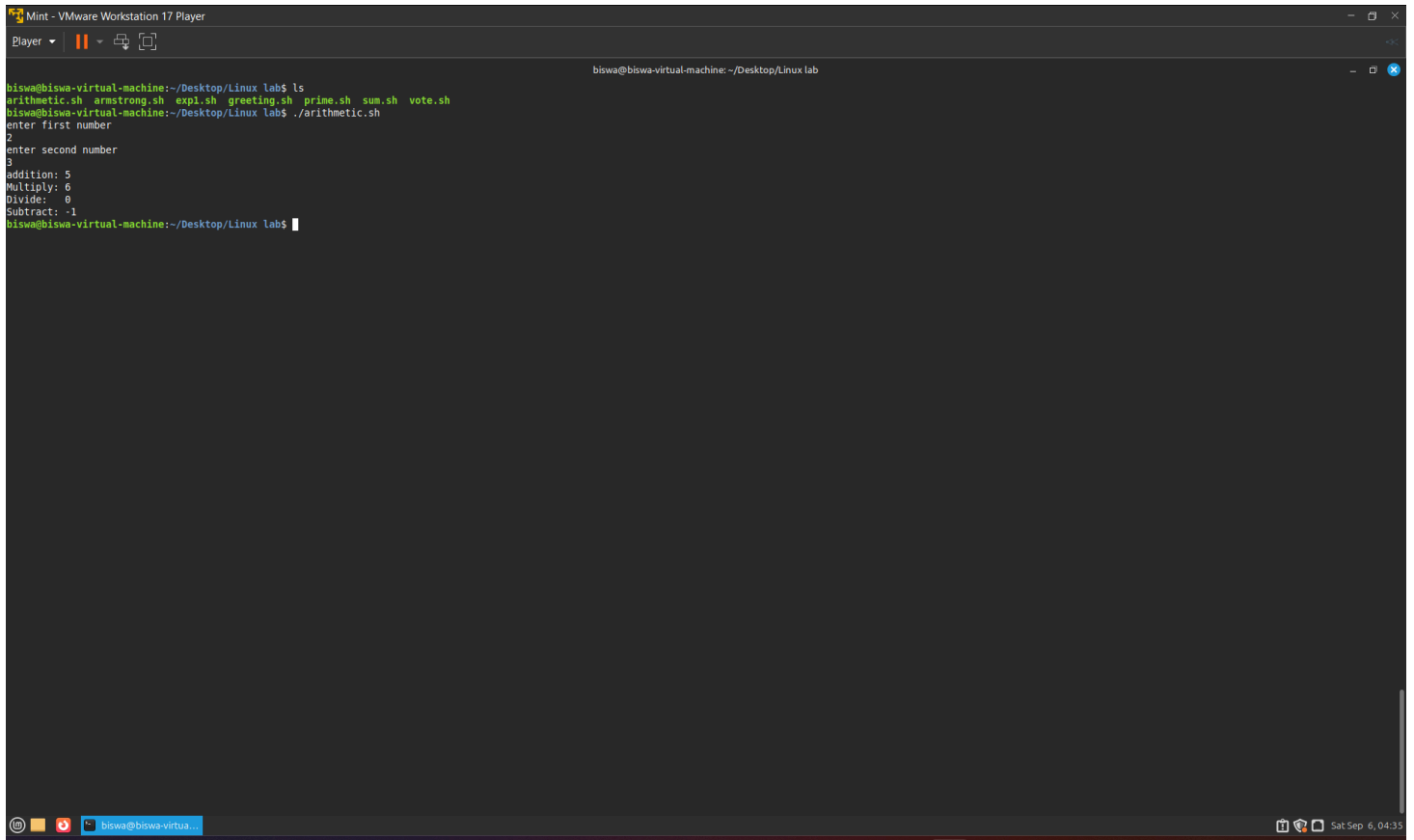
- I learnt how to run arithmetic bash script

### Command(s):

```
#!/bin/bash
echo "Enter first number: "
read num1
echo "Enter second number: "
read num2

echo "Addition: $((num1 + num2))"
echo "Subtraction: $((num1 - num2))"
echo "Multiplication: $((num1 * num2))"
echo "Division: $((num1 / num2))"
```

# Output:



The screenshot shows a terminal window titled "Mint - VMware Workstation 17 Player". The terminal displays the following output:

```
biwa@biwa-virtual-machine:~/Desktop/Linux lab$ ls
arithmetic.sh  armstrong.sh  expl.sh  greeting.sh  prime.sh  sum.sh  vote.sh
biwa@biwa-virtual-machine:~/Desktop/Linux lab$ ./arithmetic.sh
enter first number
2
enter second number
3
addition: 5
Multiply: 6
Divide: 0
Subtract: -1
biwa@biwa-virtual-machine:~/Desktop/Linux lab$
```

## Exercise 4:

- [Voting Eligibility]

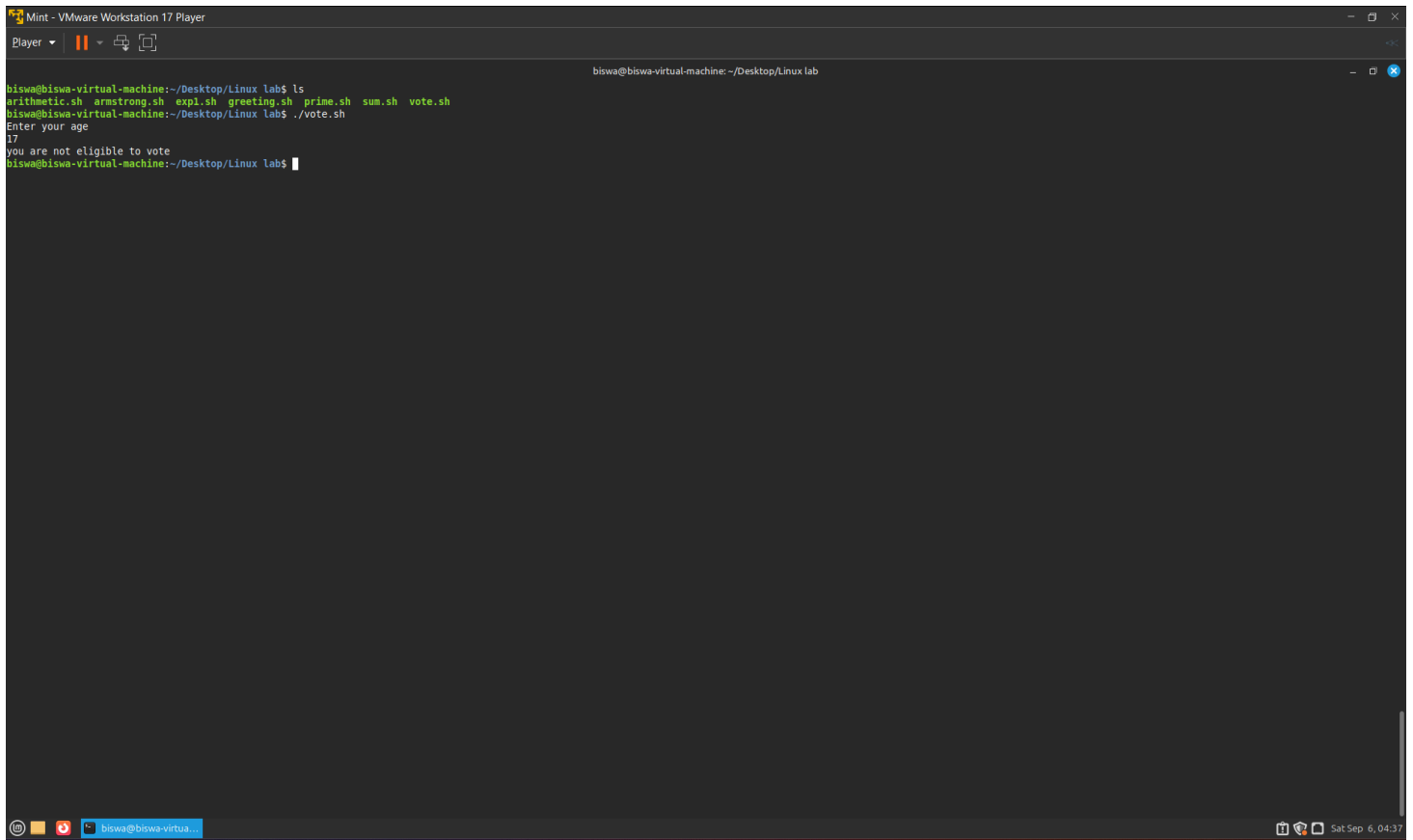
## Task Statement:

- [Using if else loop check if the user is eligible to vote or not.]

# Command(s):

```
#!/bin/bash
echo "Enter your age"
read Biswa
if [ Biswa -ge 18 ]
then
echo "you are eligible to vote"
else
echo "you are not eligible to vote"
fi
```

# Output:

A screenshot of a terminal window titled "Mint - VMware Workstation 17 Player". The terminal shows a user named "biswa" at a "biswa-virtual-machine" with a prompt of "~/Desktop/Linux lab\$". The user runs "ls", listing several shell scripts including "arithmatic.sh", "armstrong.sh", "exp1.sh", "greeting.sh", "prime.sh", "sum.sh", and "vote.sh". Then, the user runs "./vote.sh". The script prompts "Enter your age" and the user enters "17". The script then outputs "you are not eligible to vote". The terminal window has a dark background and standard window controls at the top. The bottom status bar shows the date and time as "Sat Sep 6, 04:37".

```
Mint - VMware Workstation 17 Player
Player
biswa@biswa-virtual-machine: ~/Desktop/Linux lab
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ls
arithmatic.sh  armstrong.sh  exp1.sh  greeting.sh  prime.sh  sum.sh  vote.sh
biswa@biswa-virtual-machine:~/Desktop/Linux lab$ ./vote.sh
Enter your age
17
you are not eligible to vote
biswa@biswa-virtual-machine:~/Desktop/Linux lab$
```

# Result

- The Exercises were successfully completed for Basic Shell Scripting.