

# Operating Systems Lab

Experiment No. 2

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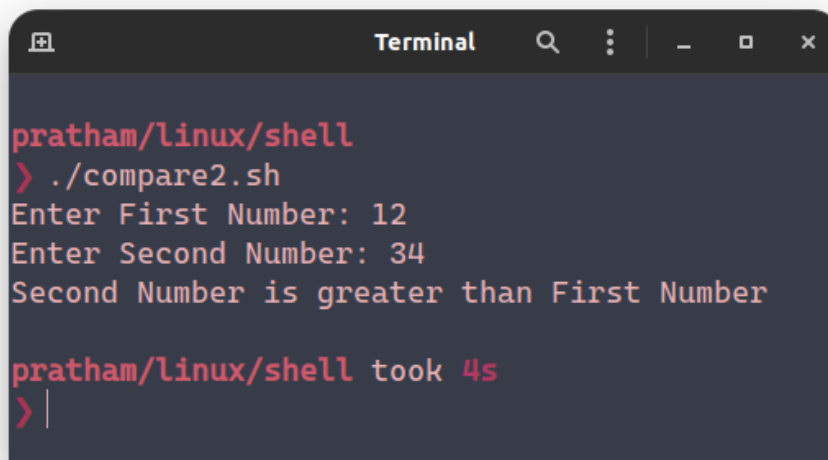
## Aim 1

Write a shell script to find the greatest of two numbers.

## Code

```
#!/usr/bin/bash
read -p "Enter First Number: " num1
read -p "Enter Second Number: " num2
if [ $num1 -gt $num2 ]
then
    echo "First Number is greater than Second Number"
elif [ $num1 -lt $num2 ]
then
    echo "Second Number is greater than First Number"
else
    echo "Both the Numbers are equal"
fi
```

## Output

A terminal window titled "Terminal" with standard window controls. The prompt is "pratham/linux/shell". The user enters ". /compare2.sh". The script prompts for "Enter First Number:" and the user enters "12". It then prompts for "Enter Second Number:" and the user enters "34". The script outputs "Second Number is greater than First Number". The prompt changes to "pratham/linux/shell took 4s". The user enters a carriage return, resulting in a new prompt line "> |".

```
pratham/linux/shell
> ./compare2.sh
Enter First Number: 12
Enter Second Number: 34
Second Number is greater than First Number

pratham/linux/shell took 4s
> |
```

## Aim 2

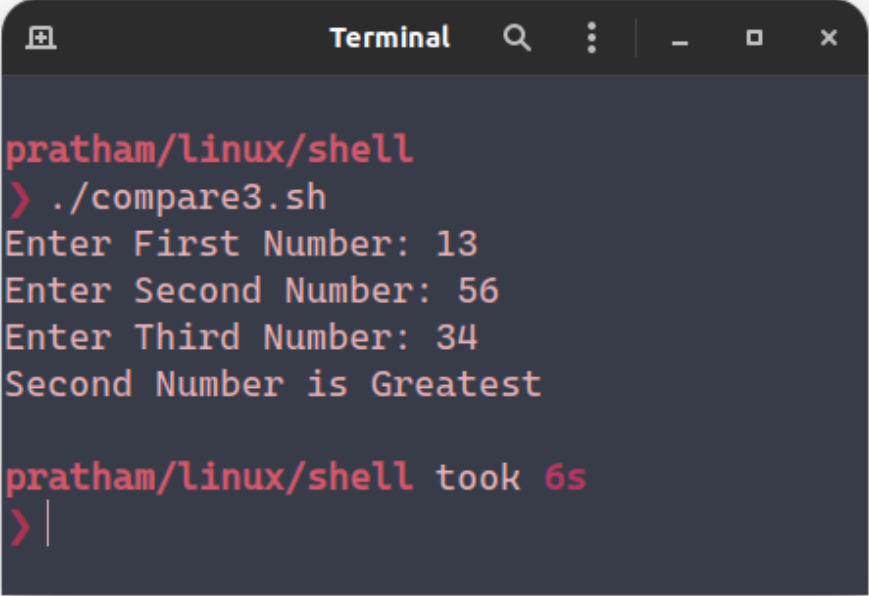
Write a shell script to find the greatest of three numbers.

## Code

```
#!/usr/bin/bash
read -p "Enter First Number: " num1
read -p "Enter Second Number: " num2
read -p "Enter Third Number: " num3

if [ $num1 -gt $num2 ]
then
    if [ $num1 -gt num3]
    then
        echo "First Number is Greatest"
    else
        echo "Third Number is Greatest"
    fi
else
    if [ $num2 -gt $num3 ]
    then
        echo "Second Number is Greatest"
    else
        echo "Third Number is Greatest"
    fi
fi
```

## Output

A terminal window titled "Terminal" with standard window controls (minimize, maximize, close) and a search icon. The terminal shows a prompt "pratham/linux/shell" followed by the command "> ./compare3.sh". The script then prompts for three numbers: "Enter First Number: 13", "Enter Second Number: 56", and "Enter Third Number: 34". It then outputs "Second Number is Greatest". Below this, it shows "pratham/linux/shell took 6s" and a new prompt "> |".

```
pratham/linux/shell
> ./compare3.sh
Enter First Number: 13
Enter Second Number: 56
Enter Third Number: 34
Second Number is Greatest

pratham/linux/shell took 6s
> |
```

## Aim 3

Write a shell script to print numbers from 1 to 10 using “for” and “while” loop

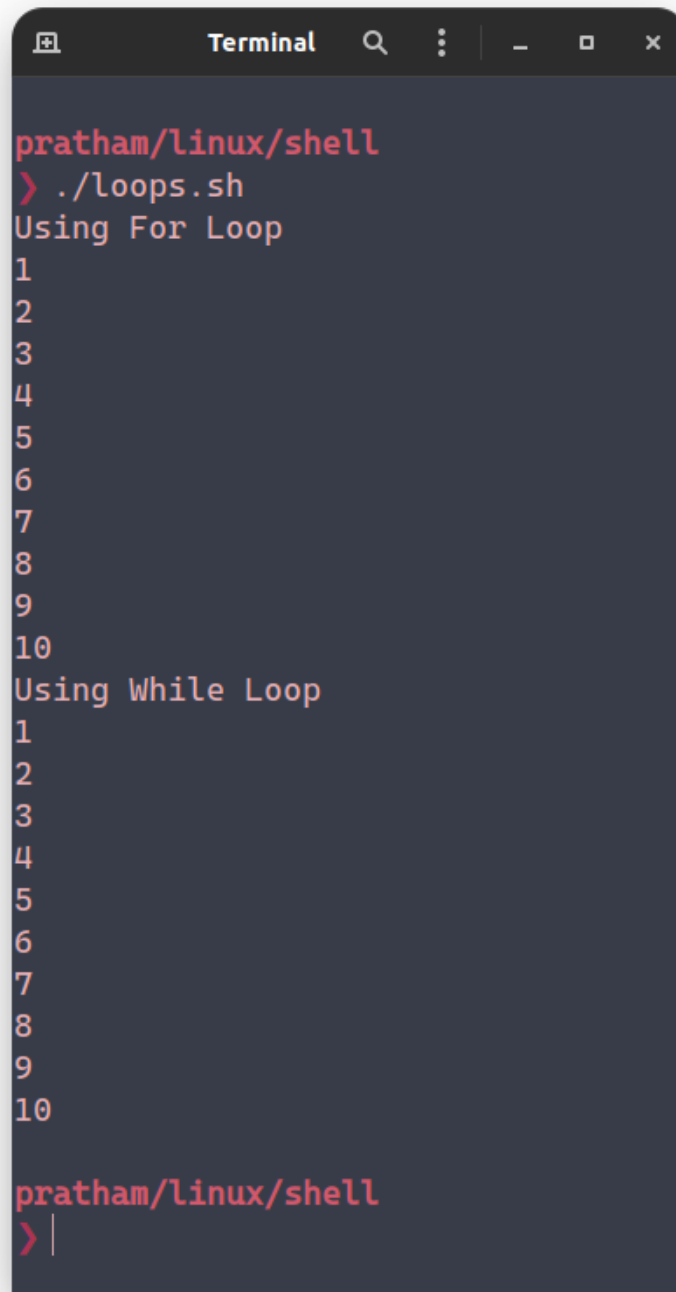
## Code

```
#!/usr/bin/bash

echo "Using For Loop"
for (( i=1; i<=10; i++))
do
    echo "$i"
done

echo "Using While Loop"
i=1
while [ $i -le 10 ]
do
    echo "$i"
    ((i++))
done
```

## Output



```
pratham/linux/shell
> ./loops.sh
Using For Loop
1
2
3
4
5
6
7
8
9
10
Using While Loop
1
2
3
4
5
6
7
8
9
10
pratham/linux/shell
> |
```

## Aim 4

Write a shell script to create a basic calculator which will perform addition, subtraction, multiplication and division of numbers entered by the user.

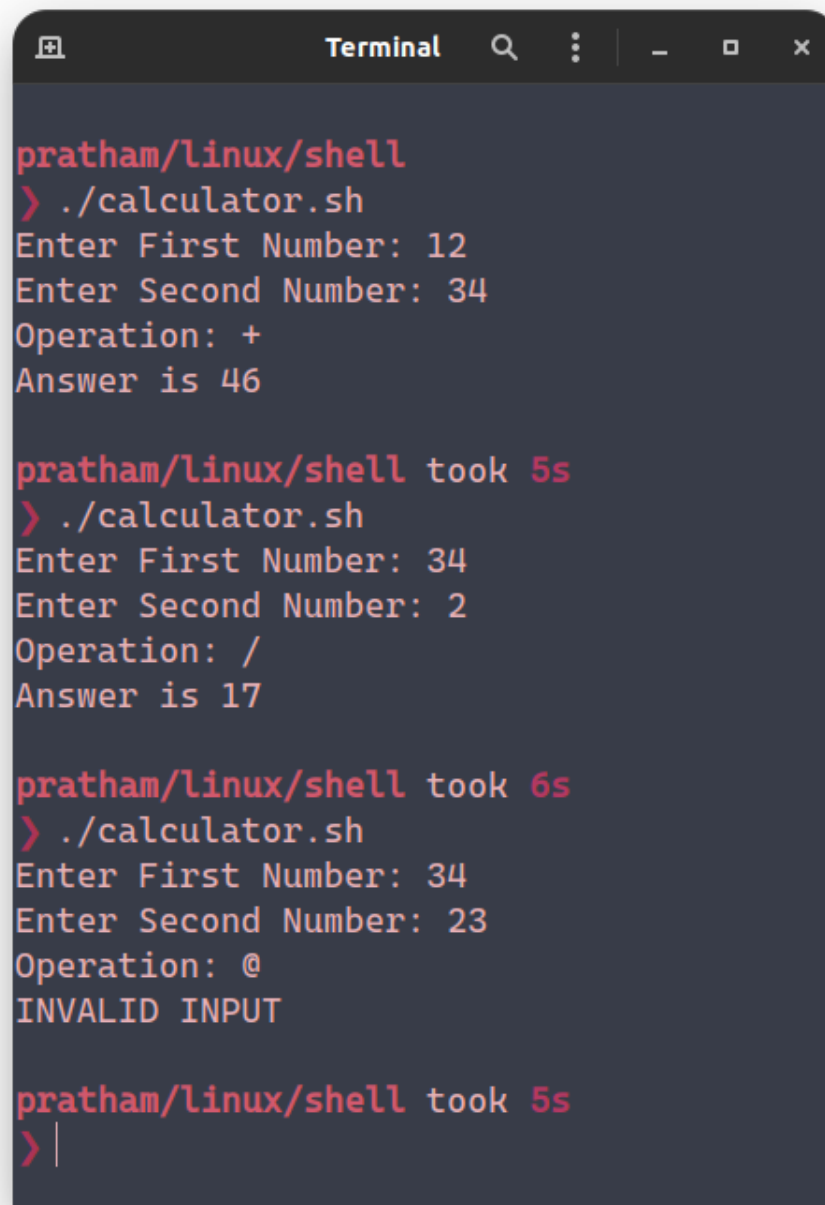
(Must ask to user what operation to perform)

## Code

```
#!/usr/bin/bash
read -p "Enter First Number: " num1
read -p "Enter Second Number: " num2
read -p "Operation: " opr

if [[ $opr == '+' ]];
then
    ans=$(( $num1 + $num2 ))
    echo "Answer is $ans"
elif [[ $opr == '-' ]];
then
    ans=$(( $num1 - $num2 ))
    echo "Answer is $ans"
elif [[ $opr == '*' ]];
then
    ans=$(( $num1 * $num2 ))
    echo "Answer is $ans"
elif [[ $opr == '/' ]];
then
    ans=$(( $num1 / $num2 ))
    echo "Answer is $ans"
else
    echo "INVALID INPUT"
fi
```

## Output

A terminal window titled "Terminal" with standard window controls (minimize, maximize, close) and a search icon. The terminal shows the execution of a script named "calculator.sh" from the directory "pratham/linux/shell". The script prompts for two numbers and an operation. In the first run, the numbers 12 and 34 are entered with the '+' operation, resulting in the answer 46. The second run shows the script taking 5 seconds to execute. In the third run, the numbers 34 and 2 are entered with the '/' operation, resulting in the answer 17. The fourth run shows the script taking 6 seconds to execute. In the fifth run, the numbers 34 and 23 are entered with the '@' operation, resulting in the message "INVALID INPUT". The final run shows the script taking 5 seconds to execute, followed by a prompt character ">" and a cursor.



## Aim 5

Write a shell script to create a text file (.txt) which will store your personal data including academic details in resume format.

## Code

```
#!/usr/bin/bash

echo "Resume Maker"
read -p "Name: " name
read -p "Qualification: " qwl
read -p "College: " col
read -p "Email: " eml
read -p "Contact no: " phn

echo -e "Hello, I am $name from $col college\nMy Qualification are $qwl\nEmail-$eml\nContact-$phn" > resume.txt
```

## Output

```
Terminal

linux/shell/resume
> ls
resume.sh

linux/shell/resume
> ./resume.sh
Resume Maker
Name: Pratham Loya
Qualification: B-Tech
College: VJTI
Email: prloya_b20@it.vjti.ac.in
Contact no: +917297827071

linux/shell/resume took 32s
> ls
resume.sh  resume.txt

linux/shell/resume
> cat resume.txt
Hello, I am Pratham Loya from VJTI college
My Qualification are B-Tech
Email-prloya_b20@it.vjti.ac.in
Contact-+917297827071

linux/shell/resume
> |
```