

Experiment-02

- Aim:**
1. Write a shell script to find the greatest of two numbers.
 2. Write a shell script to find the greatest of three numbers.
 3. Write a shell script to print numbers from 1 to 10 using “for” and “while” loop
 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 the user what operation to perform).
 5. Write a shell script to create a text file (.txt) which will store your personal data including academic details in resume format.

1.Shell script to find the greatest of the two numbers:

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > greatest
#!/bin/bash

echo "Enter the first number:"
read num1

echo "Enter the second number:"
read num2

if [ "$num1" -gt "$num2" ]; then
    echo "$num1 is greater than $num2"
elif [ "$num1" -lt "$num2" ]; then
    echo "$num2 is greater than $num1"
else
    echo "Both numbers are equal"
fi

abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x greatest
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./greatest
Enter the first number:
4
Enter the second number:
5
5 is greater than 4
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$
```

2.Shell script to find the greatest of the three numbers:

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > greatest3
#!/bin/bash

echo "Enter the first number:"
read num1

echo "Enter the second number:"
read num2

echo "Enter the third number:"
read num3

if [ "$num1" -gt "$num2" ] && [ "$num1" -gt "$num3" ];
then
echo "$num1 is the greatest."
elif [ "$num2" -gt "$num1" ] && [ "$num2" -gt "$num3" ]; then
    echo "$num2 is the greatest."
elif [ "$num3" -gt "$num1" ] && [ "$num3" -gt "$num2" ]; then
    echo "$num3 is the greatest."
else
    echo "Atleast one pair is equal"
fi
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x greatest3
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./greatest3
Enter the first number:
4
Enter the second number:
6
Enter the third number:
8
8 is the greatest.
```

3.(a)Shell script to print numbers from 1 to 10 using for loop

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > forcoun
#!/bin/bash
echo "Counting using the for loop"
for ((i=0;i<=10;i++))
do
echo $i
done
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x forcoun
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./forcoun
Counting using the for loop
0
1
2
3
4
5
6
7
8
9
10
```

(b)Shell script to print numbers from 1 to 10 using while loop

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > whilecount
#!/bin/bash
echo "counting using while loop"
count=1
while [ $count -le 10 ]
do
echo $count
((count++))
done
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x whilecount
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./whilecount
counting using while loop
1
2
3
4
5
6
7
8
9
10
```

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

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > calculator
#!/bin/bash
echo "Enter the first number:"
read num1

echo "Enter the second number:"
read num2

echo "Choose an operation:"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
read choice

case $choice in
    1)
        result=$(echo "$num1 + $num2" | bc)
        ;;
    2)
        result=$(echo "$num1 - $num2" | bc)
        ;;
    3)
        result=$(echo "$num1 * $num2" | bc)
        ;;
    4)
        if [ "$num2" -eq 0 ]; then
            echo "Division by zero not allowed"
            exit 1
        fi
        result=$(echo "$num1 / $num2" | bc)
        ;;
    *)
        echo "Invalid choice"
        exit 1
        ;;
esac

echo "Result is: $result"
```

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x calculator
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./calculator
Enter the first number:
4
Enter the second number:
2
Choose an operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
1
Result is: 6
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./calculator
Enter the first number:
5
Enter the second number:
4
Choose an operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
2
Result is: 1
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./calculator
Enter the first number:
3
Enter the second number:
2
Choose an operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
3
Result is: 6
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./calculator
Enter the first number:
8
Enter the second number:
4
Choose an operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
4
Result is: 2
```

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

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat > resume
#!/bin/bash

echo "Creating resume."

echo "Enter your full name:"
read name

echo "Enter your address:"
read address

echo "Enter your phone number:"
read phone

echo "Enter your email address:"
read email

echo "Enter your Class 12th record"
read cls12th

echo "Enter your class 10th record"
read cls10th

echo "Enter your college CGPA"
read Cg

echo "Enter the details of your projects"
read projects

echo "Enter extracurricular skills"
read skills

echo "Creating resume.txt..."
cat <<EOF > resume.txt

Name: $name
Address: $address
Phone: $phone
Email: $email

Education:
Class 12th: $cls12th
Class 10th: $cls10th
College   : $Cg

Projects: $projects

Skills:$skills

EOF
echo "Resume created successfully"
```

Input:

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ chmod +x resume
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ ./resume
Creating resume.
Enter your full name:
Abhi Mehta
Enter your address:
Mumbai,Maharashtra
Enter your phone number:
7051384507
Enter your email address:
armehta_b22@it.vjti.ac.in
Enter your Class 12th record
KNIT-97.2%
Enter your class 10th record
BHMP High School-95%
Enter your college CGPA
VJTI 8.1
Enter the details of your projects
1.Worked on ML model of semantic segnemtation
Enter extracurricular skills
1.State level player in Speedball
Creating resume.txt...
Resume created successfully
```

Output File:

```
abhi@abhi-VivoBook-ASUSLaptop-M3400QA-M3400QA:~$ cat resume.txt

Name: Abhi Mehta
Address: Mumbai,Maharashtra
Phone: 7051384507
Email: armehta_b22@it.vjti.ac.in

Education:
Class 12th: KNIT-97.2%
Class 10th: BHMP High School-95%
College   : VJTI 8.1

Projects: 1.Worked on ML model of semantic segnemtation

Skills:1.State level player in Speedball
```

Conclusion:

Learning shell scripting provided a powerful way to perform various operations in the Linux environment. The scripts above cover a range of functionalities, from basic conditional statements and loops to user input handling, file creation, and basic arithmetic operations. Shell scripting is an essential skill for system administrators, developers, and anyone working with Unix-based systems, as it allows for efficient and automated execution of tasks. We gained a deeper understanding of the command-line environment of the Linux and improved our ability to write the shell script for performing various tasks.