

Lab Activity - 12

-Networking & System Administration Lab

Submitted by,

Anjali C Abraham

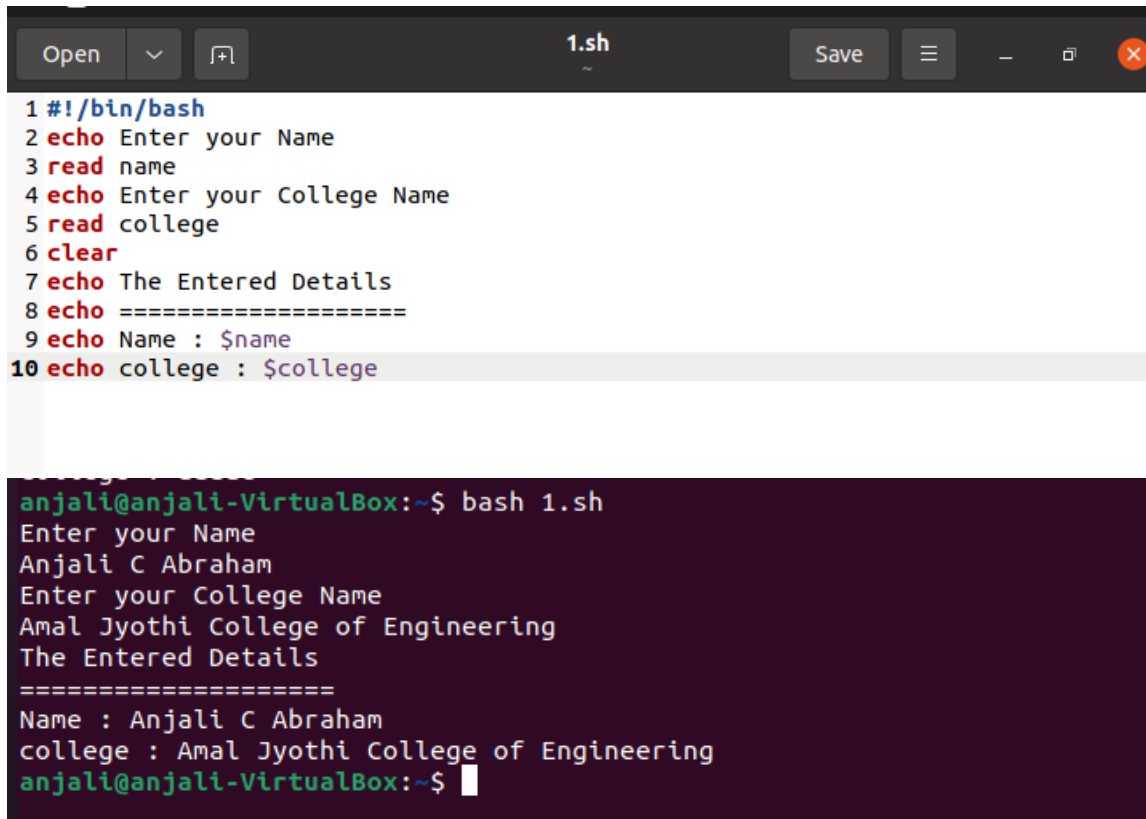
Roll No : 18

S2 RMCA A

Submitted on :03-10-2021

Shell Scripting Lab Assignments

1. Write a shell script to ask your name, and college name and print it on the screen.

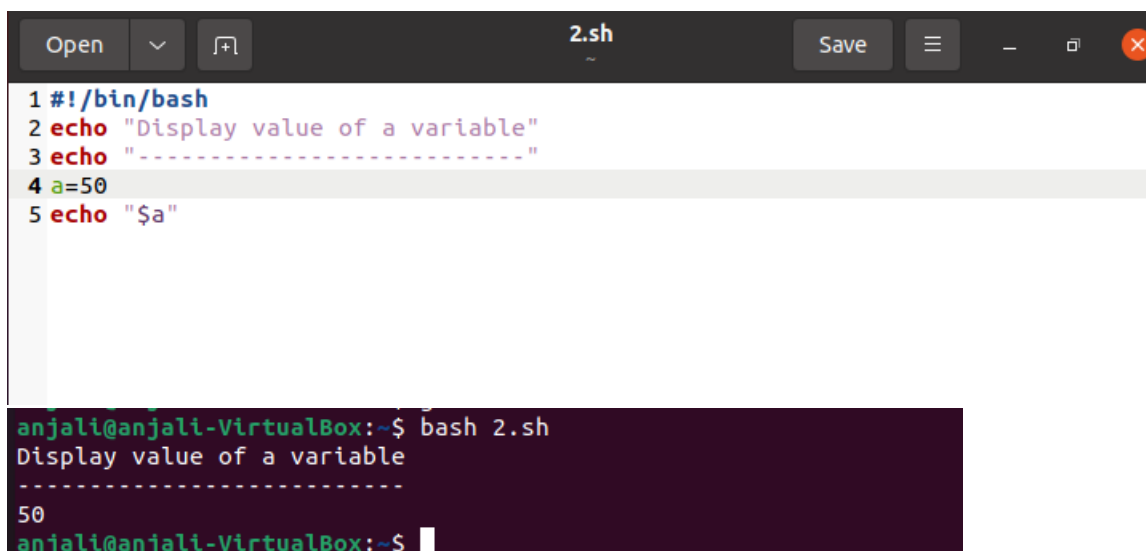


The image shows a code editor window titled '1.sh' with a dark theme. The script contains 10 lines of code: a shebang, two echo prompts, two read commands, a clear command, and three echo output lines. Below the editor is a terminal window showing the script being executed. The user inputs 'Anjali C Abraham' for the name and 'Amal Jyothi College of Engineering' for the college. The output displays these details with a separator line.

```
1 #!/bin/bash
2 echo Enter your Name
3 read name
4 echo Enter your College Name
5 read college
6 clear
7 echo The Entered Details
8 echo =====
9 echo Name : $name
10 echo college : $college
```

```
anjali@anjali-VirtualBox:~$ bash 1.sh
Enter your Name
Anjali C Abraham
Enter your College Name
Amal Jyothi College of Engineering
The Entered Details
=====
Name : Anjali C Abraham
college : Amal Jyothi College of Engineering
anjali@anjali-VirtualBox:~$
```

2. Write a shell script to set a value for a variable and display it on command line interface.

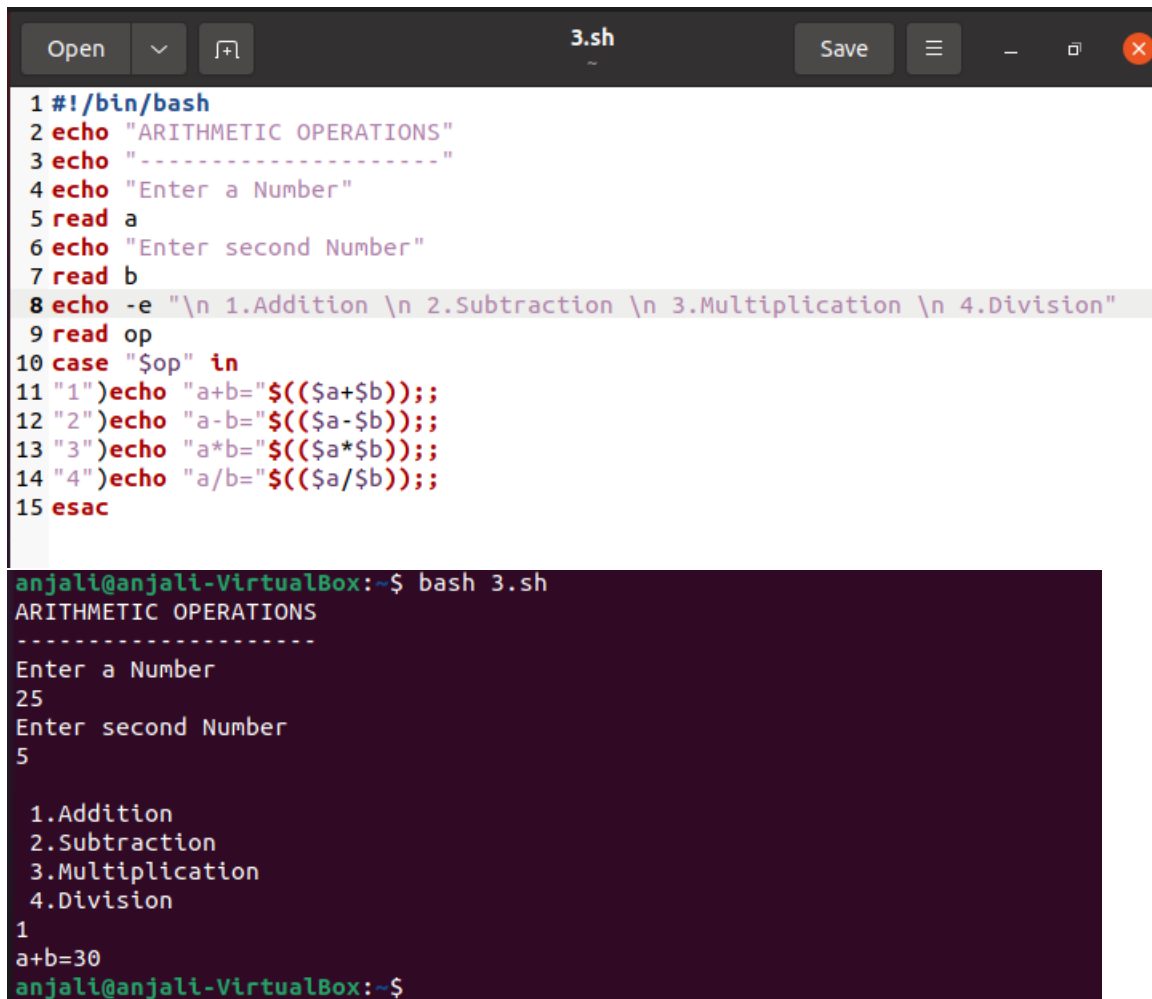


The image shows a code editor window titled '2.sh' with a dark theme. The script contains 5 lines of code: a shebang, an echo prompt, a dashed line separator, a variable assignment, and an echo output. Below the editor is a terminal window showing the script being executed. The output displays the value of the variable 'a' which is 50.

```
1 #!/bin/bash
2 echo "Display value of a variable"
3 echo "-----"
4 a=50
5 echo "$a"
```

```
anjali@anjali-VirtualBox:~$ bash 2.sh
Display value of a variable
-----
50
anjali@anjali-VirtualBox:~$
```

3. Write a shell script to perform addition, subtraction, multiplication, division with two numbers that is accepted from user.

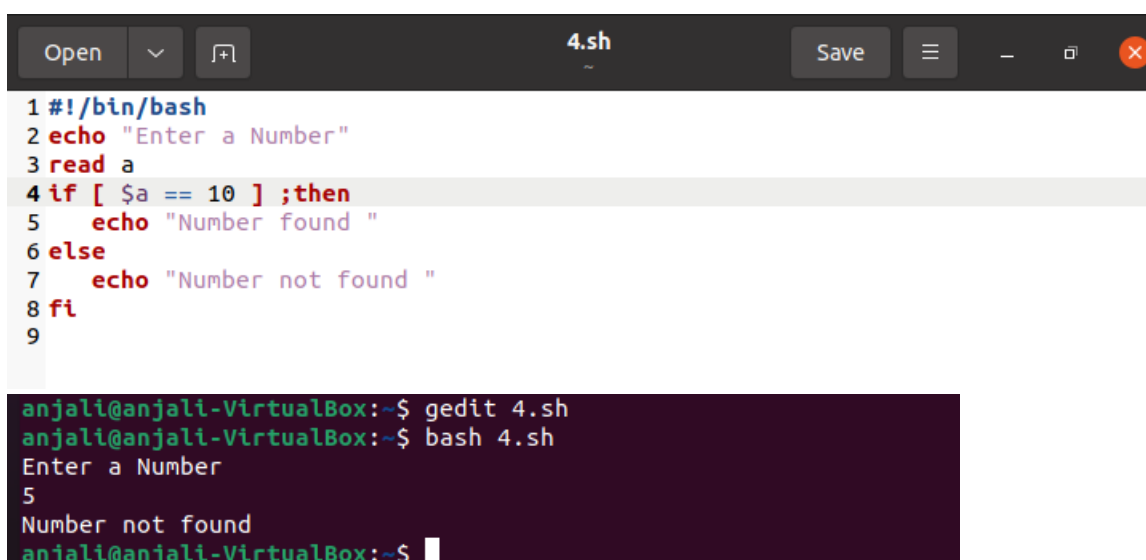


```
1 #!/bin/bash
2 echo "ARITHMETIC OPERATIONS"
3 echo "-----"
4 echo "Enter a Number"
5 read a
6 echo "Enter second Number"
7 read b
8 echo -e "\n 1.Addition \n 2.Subtraction \n 3.Multiplication \n 4.Division"
9 read op
10 case "$op" in
11 "1")echo "a+b=$((a+b));;"
12 "2")echo "a-b=$((a-b));;"
13 "3")echo "a*b=$((a*b));;"
14 "4")echo "a/b=$((a/b));;"
15 esac

anjali@anjali-VirtualBox:~$ bash 3.sh
ARITHMETIC OPERATIONS
-----
Enter a Number
25
Enter second Number
5

 1.Addition
 2.Subtraction
 3.Multiplication
 4.Division
1
a+b=30
anjali@anjali-VirtualBox:~$
```

4. Write a shell script to check the value of a given number and display whether the number is found or not.



```
1 #!/bin/bash
2 echo "Enter a Number"
3 read a
4 if [ $a == 10 ] ;then
5     echo "Number found "
6 else
7     echo "Number not found "
8 fi
9

anjali@anjali-VirtualBox:~$ gedit 4.sh
anjali@anjali-VirtualBox:~$ bash 4.sh
Enter a Number
5
Number not found
anjali@anjali-VirtualBox:~$
```

5. Write a shell script to display current date, calendar.

```
Open 5.sh Save
1 #!/bin/bash
2 echo "Time And Calendar"
3 echo "-----"
4 echo "Today is $(date) "
5 echo " "
6 echo "Calendar :|"
7 cal

anjali@anjali-VirtualBox:~$ bash 5.sh
Time And Calendar
-----
Today is Sunday 03 October 2021 07:19:03 PM IST

Calendar :
    October 2021
Su Mo Tu We Th Fr Sa
          1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
anjali@anjali-VirtualBox:~$
```

6. Write a shell script to check a number is even or odd.

```
Open 6.sh Save
1 #!/bin/bash
2 echo "Odd OR Even"
3 echo "-----"
4 echo "Enter a Number"
5 read n
6 x=$(( $n % 2 ))
7 if [ $x -eq 0 ] ;then
8     echo "Number is Even"
9 else
10    echo "Number is Odd"
11 fi

anjali@anjali-VirtualBox:~$ bash 6.sh
Odd OR Even
-----
Enter a Number
100
Number is Even
anjali@anjali-VirtualBox:~$ bash 6.sh
Odd OR Even
-----
Enter a Number
125
Number is Odd
anjali@anjali-VirtualBox:~$
```

7. Write a shell script to check a number is greater than, less than or equal to another number.

```
Open 7.sh Save
1 #!/bin/bash
2 echo "Enter first number"
3 read a
4 echo "Enter second number"
5 read b
6 if [ $a -gt $b ] ;then
7   echo " $a is Greater "
8 elif [ $b -gt $a ] ;then
9   echo " $b is Greater "
10 else
11   echo " Both are Equal"
12 fi

anjali@anjali-VirtualBox:~$ gedit 7.sh
anjali@anjali-VirtualBox:~$ bash 7.sh
Enter first number
34
Enter second number
67
67 is Greater
anjali@anjali-VirtualBox:~$
```

8. Write a shell script to find the sum of first 10 numbers.

```
Open 8.sh Save
1 #!/bin/bash
2 echo "Sum of Numbers"
3 echo "-----"
4 s=0
5 for (( i = 1; i <= 10; i++ ))
6 do
7   s=`expr $s + $i`
8 done
9 echo "Sum of first 10 numbers = $s"

anjali@anjali-VirtualBox:~$ gedit 8.sh
anjali@anjali-VirtualBox:~$ bash 8.sh
Sum of Numbers
-----
Sum of first 10 numbers = 55
anjali@anjali-VirtualBox:~$
```

9. Write a shell script to find the sum, the average and the product of the four integers entered.

```
Open  9.sh  Save  -  X
1 #!/bin/bash
2 echo " Enter the first Number : "
3 read a
4 echo " Enter the second Number : "
5 read b
6 echo " Enter the third Number : "
7 read c
8 echo " Enter the fourth Number : "
9 read d
10 sum=$(( $a + $b + $c + $d ))
11 avg=$(echo $sum / 4 | bc -l)
12 product=$(( $a * $b * $c * $d ))
13 echo "The sum of numbers : "$sum
14 echo "The average of numbers : "$avg
15 echo "The product of numbers : "$product

anjali@anjali-VirtualBox:~$ gedit 9.sh
anjali@anjali-VirtualBox:~$ bash 9.sh
Enter the first Number :
13
Enter the second Number :
56
Enter the third Number :
23
Enter the fourth Number :
45
The sum of numbers : 137
The average of numbers : 34.250000000000000000000000000000
The product of numbers : 753480
anjali@anjali-VirtualBox:~$
```

10. Write a shell script to find the smallest of three numbers.

```
Open  10.sh  Save  -  X
1 #!/bin/bash
2 echo "Enter first number"
3 read a
4 echo "Enter second number"
5 read b
6 echo "Enter third number"
7 read c
8 if [ $a -gt $b ] ;then
9 if [ $a -gt $c ] ;then
10 echo "$a is big"
11 else
12 echo "$c is big"
13 fi
14 elif [ $b -gt $c ] ;then
15 echo "$b is big"
16 else
17 echo "$c is big"
18 fi
```

```

anjali@anjali-VirtualBox:~$ gedit 10.sh
anjali@anjali-VirtualBox:~$ bash 10.sh
Enter first number
30
Enter second number
69
Enter third number
12
69 is big
anjali@anjali-VirtualBox:~$

```

11. Write a shell program to find factorial of given number.

```

Open 11.sh Save
1 #!/bin/bash
2 echo "Enter a number"
3 read num
4 fact=1
5 for(( i=2; i<=num; i++ ))
6 {
7     fact=$((fact * i)) #fact=fact*i
8 }
9 echo "Factorial is $fact"

anjali@anjali-VirtualBox:~$ bash 11.sh
Enter a number
5
Factorial is 120
anjali@anjali-VirtualBox:~$

```

12. Write a shell program to check a number is palindrome or not.

```

Open 12.sh Save
1 #!/bin/bash
2 echo "Enter number"
3 read n
4 rev=$(echo $n | rev)
5 if [ $n -eq $rev ] ; then
6     echo "Number is Palindrome"
7 else
8     echo "Number is not Palindrome"
9 fi

anjali@anjali-VirtualBox:~$ gedit 12.sh
anjali@anjali-VirtualBox:~$ bash 12.sh
Enter number
123321
Number is Palindrome
anjali@anjali-VirtualBox:~$

```

13. Write a shell script to find the average of the numbers entered in command line.

```
Open 13.sh Save
1 #!/bin/bash
2 echo "Enter Size"
3 read n
4 i=1
5 sum=0
6 echo "Enter Numbers : "
7 while [ $i -le $n ]
8 do
9 read num
10 sum=$((sum+num))
11 i=$((i+1))
12 done
13 avg=$((echo $sum / $n | bc -l ))
14 echo $avg

anjali@anjali-VirtualBox:~$ gedit 13.sh
anjali@anjali-VirtualBox:~$ bash 13.sh
Enter Size
3
Enter Numbers :
12
13
14
13.000000000000000000000000
anjali@anjali-VirtualBox:~$
```

14. Write a shell program to find the sum of all the digits in a number.

```
Open 14.sh Save
1 #!/bin/bash
2 echo "Enter a number : "
3 read num
4 sum=0
5 while [ $num -gt 0 ]
6 do
7 mod=$((num%10))
8 sum=$((sum+mod))
9 num=$((num/10))
10 done
11 echo "Sum of digits is $sum"

anjali@anjali-VirtualBox:~$ gedit 14.sh
anjali@anjali-VirtualBox:~$ bash 14.sh
Enter a number :
12345
Sum of digits is 15
anjali@anjali-VirtualBox:~$
```


15. Write a shell Script to check whether given year is leap year or not.

```
Open 15.sh Save
```

```
1 #!/bin/bash
2 echo "Enter the year"
3 read y
4 a=`expr $y % 4`
5 b=`expr $y % 100`
6 c=`expr $y % 400`
7 if [ $a -eq 0 -a $b -ne 0 -o $c -eq 0 ] ; then
8   echo "$y is leap year"
9 else
10  echo "$y is not leap year"
11 fi
```

```
anjali@anjali-VirtualBox:~$ gedit 15.sh
anjali@anjali-VirtualBox:~$ bash 15.sh
Enter the year
1998
1998 is not leap year
anjali@anjali-VirtualBox:~$ bash 15.sh
Enter the year
2000
2000 is leap year
anjali@anjali-VirtualBox:~$
```