

# **ASSIGNMENT**

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## Shell Script

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

```
#!/bin/bash
echo Enter your name

read name

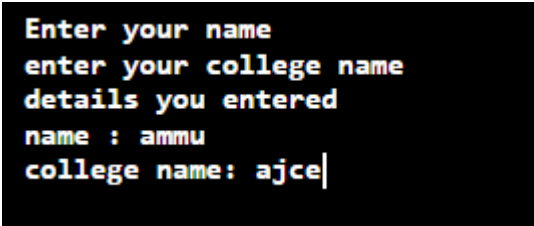
echo enter your college name

read college

echo details you entered

echo name :$name

echo college name:$college
```



```
Enter your name
enter your college name
details you entered
name : ammu
college name: ajce|
```

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

```
#!/bin/bash
echo "Display value of a Variable "
e
a=10
echo "$a"
```

```
ishagjisha-VirtualBox:~$ nano
ishagjisha-VirtualBox:~$ chmod u+x bash2.txt
ishagjisha-VirtualBox:~$ ./bash2.txt
Display value of a Variable
*****
18
```

### **3. Write a shell script to perform addition, subtraction, multiplication, division**

**with two numbers that is accepted from user.**

```
#!/bin/bash

echo "ARITHMETIC OPERATIONS"

echo "===== "

echo "Enter a number"

read a

echo "Enter another number"

read b

echo "Enter operation needed"

echo "\n1.Addition\n2.Substraction\n3.Multiplication\n4.Division"

read op

case "$op" in

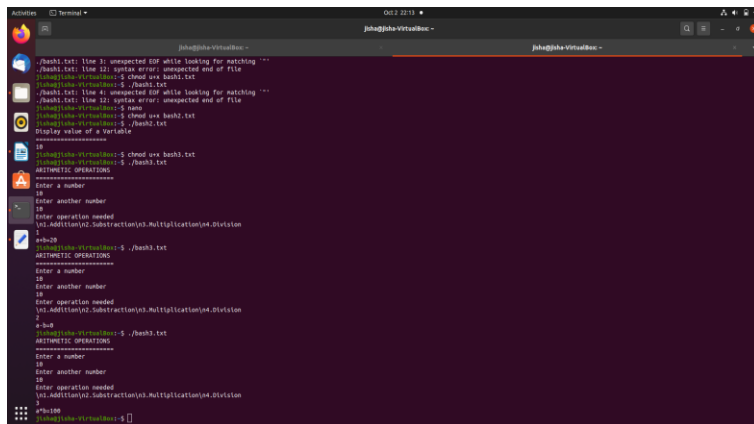
"1") echo "a+b=$((a+b));;"

"2") echo "a-b=$((a-b));;"

"3") echo "a*b=$((a*b));;"

"4") echo "a/b=$((a/b));;"

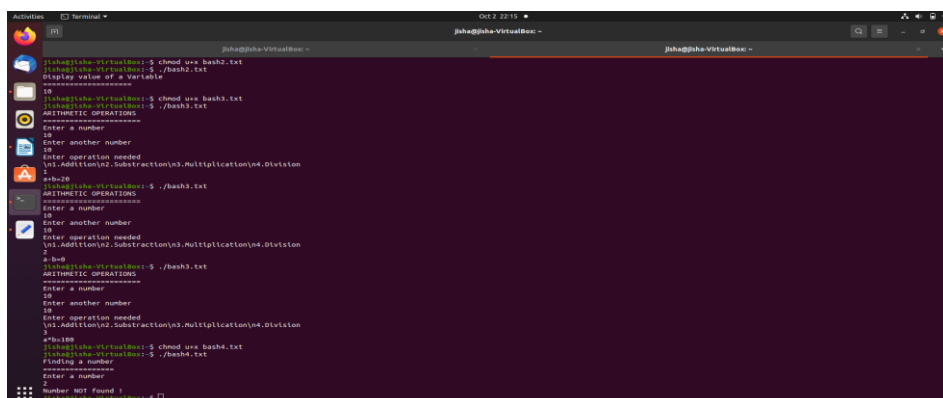
esac
```

A terminal window titled 'jha@jha-VirtualBox' showing the execution of a shell script. The script starts with 'chmod u+x bash1.txt' and then runs './bash1.txt'. It displays 'Display value of a Variable' followed by '====='. Then it prompts 'Enter a number' (10) and 'Enter another number' (20). It then asks 'Enter operation needed' and lists options: '1: Addition 2: Subtraction 3: Multiplication 4: Division'. The user selects '3' for multiplication, and the script outputs 'Arithmetic Operations' and '10 \* 20 = 200'.

```
jha@jha-VirtualBox:~$ chmod u+x bash1.txt
jha@jha-VirtualBox:~$ ./bash1.txt
Display value of a Variable
=====
Enter a number
10
Enter another number
20
Enter operation needed
1: Addition 2: Subtraction 3: Multiplication 4: Division
3
Arithmetic Operations
10 * 20 = 200
```

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

```
#!/bin/bash
echo "Finding a number"
echo "===== "
echo "Enter a number"
read a
if [ $a == 10 ]; then
    echo "Number found ;)"
else
    echo "Number NOT found !"
fi
```

A terminal window titled 'jha@jha-VirtualBox' showing the execution of a shell script. It starts with 'chmod u+x bash2.txt' and then runs './bash2.txt'. It displays 'Display value of a Variable' followed by '====='. Then it prompts 'Enter a number' (10) and 'Enter another number' (20). It then asks 'Enter operation needed' and lists options: '1: Addition 2: Subtraction 3: Multiplication 4: Division'. The user selects '3' for multiplication, and the script outputs 'Arithmetic Operations' and '10 \* 20 = 200'.

```
jha@jha-VirtualBox:~$ chmod u+x bash2.txt
jha@jha-VirtualBox:~$ ./bash2.txt
Display value of a Variable
=====
Enter a number
10
Enter another number
20
Enter operation needed
1: Addition 2: Subtraction 3: Multiplication 4: Division
3
Arithmetic Operations
10 * 20 = 200
```

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

```
#!/bin/bash
echo "Time and Calendar"
echo "===== "
```

```

echo "Today is $(date)"
echo ""
echo "Calendar : "
cal

```

```

jisha@jisha-VirtualBox: ~
1
a+b=20
jisha@jisha-VirtualBox: ~$ ./bash3.txt
ARITHMETIC OPERATIONS
*****
Enter a number
10
Enter another number
10
Enter operation needed
\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division
2
a*b=9
jisha@jisha-VirtualBox: ~$ ./bash3.txt
ARITHMETIC OPERATIONS
*****
Enter a number
10
Enter another number
10
Enter operation needed
\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division
3
a*b=100
jisha@jisha-VirtualBox: ~$ chmod u+x bash4.txt
jisha@jisha-VirtualBox: ~$ ./bash4.txt
Finding a number
*****
Enter a number
2
Number NOT found !
jisha@jisha-VirtualBox: ~$ chmod u+x bash5.txt
jisha@jisha-VirtualBox: ~$ ./bash5.txt
Time and Calendar
*****
Today is Saturday 02 October 2021 10:17:22 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
jisha@jisha-VirtualBox: ~$

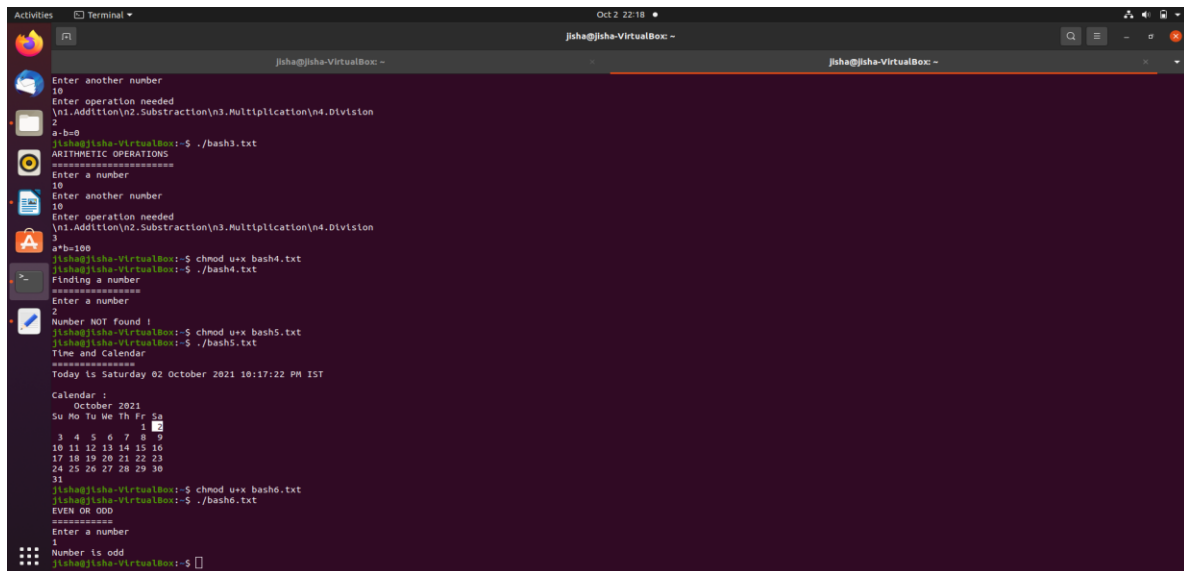
```

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

```

#!/bin/bash
echo "EVEN OR ODD"
echo "====="
echo "Enter a number"
read n
x=$((n%2))
if [ $x -eq 0 ]; then
    echo "Number is Even"
else
    echo "Number is odd"
fi

```



```
Activities Terminal
Oct 2 22:18
jisha@jisha-VirtualBox: -
jisha@jisha-VirtualBox: -
jisha@jisha-VirtualBox: -
Enter another number
10
Enter operation needed
\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division
2
a-b=0
jisha@jisha-VirtualBox:~$ ./bash3.txt
ARITHMETIC OPERATIONS
=====
Enter a number
10
Enter another number
10
Enter operation needed
\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division
3
a*b=100
jisha@jisha-VirtualBox:~$ chmod u+x bash4.txt
jisha@jisha-VirtualBox:~$ ./bash4.txt
Finding a number
=====
Enter a number
2
Number NOT Found !
jisha@jisha-VirtualBox:~$ chmod u+x bash5.txt
jisha@jisha-VirtualBox:~$ ./bash5.txt
TTime and Calendar
=====
Today is Saturday 02 October 2021 10:17:22 PM IST
Calendar :
October 2021
Su Mo Tu We Th Fr Sa
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
jisha@jisha-VirtualBox:~$ chmod u+x bash6.txt
jisha@jisha-VirtualBox:~$ ./bash6.txt
EVEN OR ODD
=====
Enter a number
1
Number is odd
jisha@jisha-VirtualBox:~$
```

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

```
#!/bin/bash
echo "Comparing numbers"
echo "===== "
echo "Enter first number"
read a
echo "Enter second number"
read b
if [ $a -gt $b ]; then
    echo "$a is greater"
elif [ $b -gt $a ];then
    echo "$b is greater"
else
    echo "Both are Equal"
fi
```

```

❏ bash main.sh
"enter the number"
5
"enter the second number"
5
"5 is equal to 5"
❏

```

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

```

#!/bin/bash
echo "Sum of Numbers "
echo "======"
s=0
for (( i=1;i<=10;i++ ))
do
s=`expr $s + $i`
done
echo "Sum of first 10 numbers = $s"

```

```

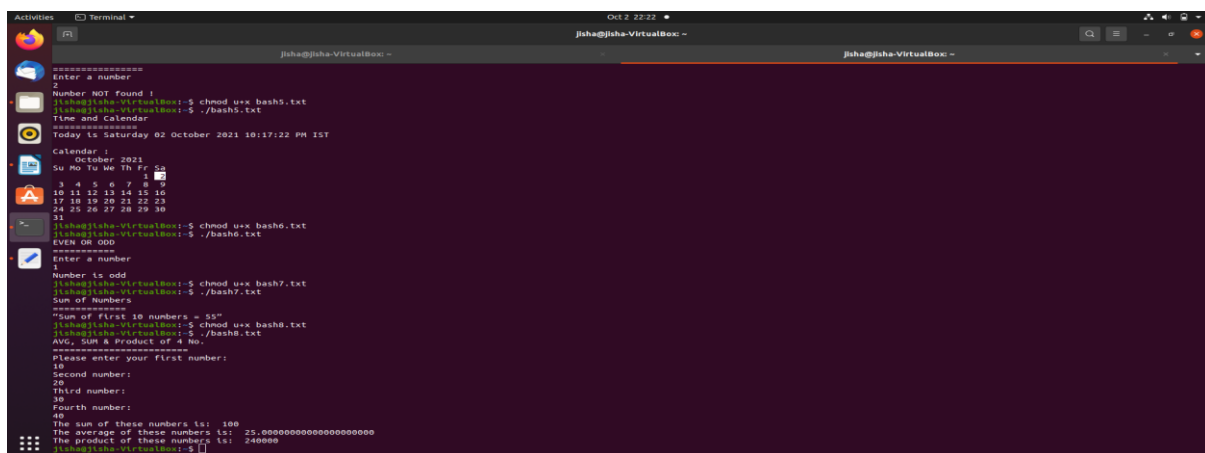
Activities Terminal Oct 2 22:20
jisha@jisha-VirtualBox: -
jisha@jisha-VirtualBox: -
jisha@jisha-VirtualBox: -
jisha@jisha-VirtualBox:~$ a-b=0
jisha@jisha-VirtualBox:~$ ./bash3.txt
ARITHMETIC OPERATIONS
=====
Enter a number
10
Enter another number
10
Enter operation needed
\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division
3
a*b=100
jisha@jisha-VirtualBox:~$ chmod u+x bash4.txt
jisha@jisha-VirtualBox:~$ ./bash4.txt
Finding a number
=====
Enter a number
2
Number NOT found !
jisha@jisha-VirtualBox:~$ chmod u+x bash5.txt
jisha@jisha-VirtualBox:~$ ./bash5.txt
Time and Calendar
=====
Today is Saturday 02 October 2021 10:17:22 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
jisha@jisha-VirtualBox:~$ chmod u+x bash6.txt
jisha@jisha-VirtualBox:~$ ./bash6.txt
EVEN OR ODD
=====
Enter a number
1
Number is odd
jisha@jisha-VirtualBox:~$ chmod u+x bash7.txt
jisha@jisha-VirtualBox:~$ ./bash7.txt
Sum of Numbers
=====
"Sum of first 10 numbers = 55"
jisha@jisha-VirtualBox:~$

```

```
#!/bin/bash
echo "AVG, SUM & Product of 4 No."
echo "===== "
echo "Please enter your first number: "
read a
echo "Second number: "
read b
echo "Third number: "
read c
echo "Fourth number: "
read d

sum=$(( $a + $b + $c + $d ))
avg=$(( echo $sum / 4 | bc -l ))
prod=$(( $a * $b * $c * $d ))

echo "The sum of these numbers is: " $sum
echo "The average of these numbers is: " $avg
echo "The product of these numbers is: " $prod
```



```
#!/bin/bash

echo "LARGEST OF THREE"
```



```
echo "====="
```

```
echo "Enter first number"
```

read a

```
echo "Enter second number"
```

read b

```
echo "Enter third number"
```

```
read c
```

if [ $a > b$ ]; then

if [ $a > c$ ]; then

```
echo "$a is big"
```

else

```
echo "$c is big"
```

fi

elif [\$b -gt \$c];then

```
echo "$b is big"
```

else

```
echo "$c is big"
```

fi

[illegible]

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

```
#!/bin/bash
echo "Factorial"
```

```

echo "====="
echo "Enter a number"
read num
fact=1

for((i=2;i<=num;i++))
{
    fact=$((fact * i)) #fact = fact * i
}
echo "Factorial is $fact"

```

```

jshah@jshah-VirtualBox: ~
$ ./bash6.txt
=====
Enter a number
10
Number is 10
fact=1
for((i=2;i<=10;i++))
{
    fact=$((fact * i)) #fact = fact * i
}
echo "Factorial is $fact"
Factorial is 3628800

```

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

```

#!/bin/bash
echo "Palindrome or Not"
echo "====="
echo "Enter number to check"
read n
rev=$(echo $n | rev)
if [ $n -eq $rev ]; then
    echo "Number is Palindrome"
else
    echo "Number is not Palindrome"
fi

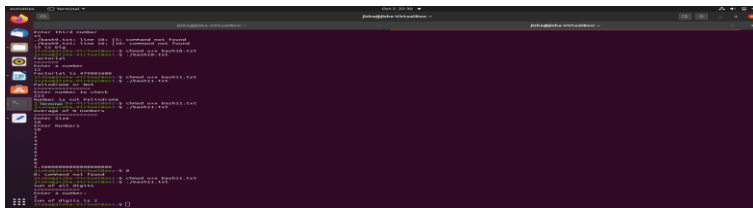
```



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

```
#!/bin/bash
echo "Sum of all digits"
echo "===== "
echo "Enter a number:"
read num
sum=0

while [ $num -gt 0 ]
do
    mod=$((num % 10))
    sum=$((sum + mod))
    num=$((num / 10))
done
echo "Sum of digits is $sum"
```



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

```
#!/bin/bash
echo "LEAP YEAR OR NOT"
echo "===== "
echo "Enter the year"
read y
a=`expr $y % 4`
b=`expr $y % 100`
c=`expr $y % 400`
if [ $a -eq 0 -a $b -ne 0 -o $c -eq 0 ];
then
echo "$y is leap year"
```

else

```
echo "$y is not leap year"
```

fi

The screenshot shows a terminal window titled "jshg@jshg-VirtualBox -" with a dark background. The terminal displays the execution of a Factorial program. The program prompts for a number, checks if it is a palindrome, and calculates the sum of its digits. It also includes a section for checking if a year is a leap year. The output shows the program running successfully for most cases, but it encounters an "Error: Command not found" when it tries to execute a command that is not defined in the script.

```

Factorial
Enter a number
12
Factorial is 4790016
jshg@jshg-VirtualBox:~$ chmod u+x bash11.txt
jshg@jshg-VirtualBox:~$ ./bash11.txt
Palindrom or Not
=====
Enter number to check
223
Number is not Palindrom
jshg@jshg-VirtualBox:~$ chmod u+x bash11.txt
jshg@jshg-VirtualBox:~$ ./bash11.txt
Average of N Numbers
=====
Enter size
10
Enter Numbers
1
2
3
4
5
6
7
8
9
10
=====
$! command not found
jshg@jshg-VirtualBox:~$ chmod u+x bash11.txt
jshg@jshg-VirtualBox:~$ ./bash11.txt
Sum of all digits
=====
Enter a number
2
Sum of digits is 2
jshg@jshg-VirtualBox:~$ chmod u+x bash11.txt
jshg@jshg-VirtualBox:~$ ./bash11.txt
LEAP YEAR OR NOT
=====
Enter the year
2020
2020 is leap year
jshg@jshg-VirtualBox:~$
  
```