Advanced Computer Networks Lab Assignment

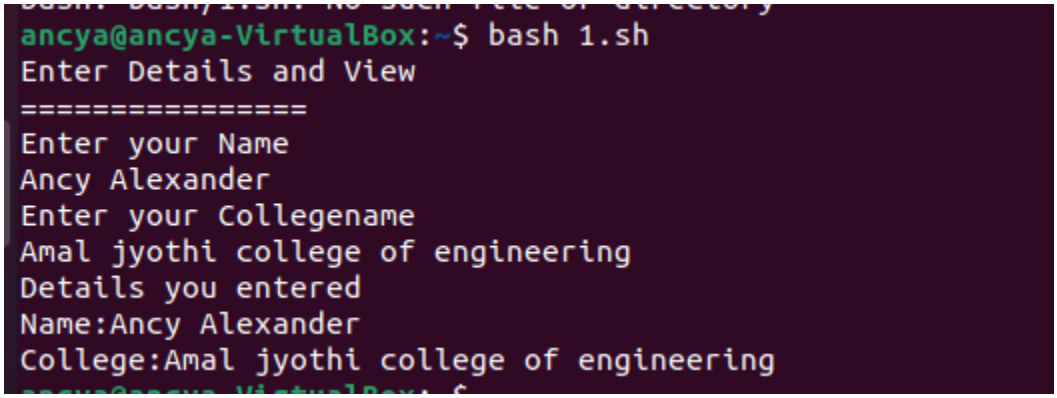
Topic: -Shell Scripting Programs

Submitted By:
Ancy Alexander
Roll no: 16
S2 RMCA A

Submitted To:
Rini Kurian

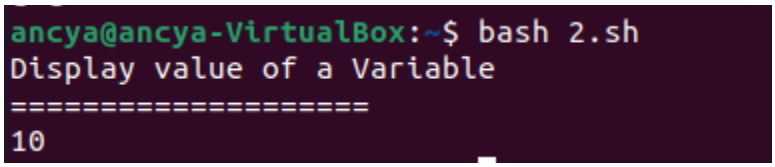
1. Write a shell script to ask your name, and college name and print it on the screen.

```
#!/bin/bash
echo " Enter Details and View”
echo "================"
echo Enter your Name
read name
echo Enter your College name
read college
clear
echo Details you entered
echo Name: $name
echo College: $college
```



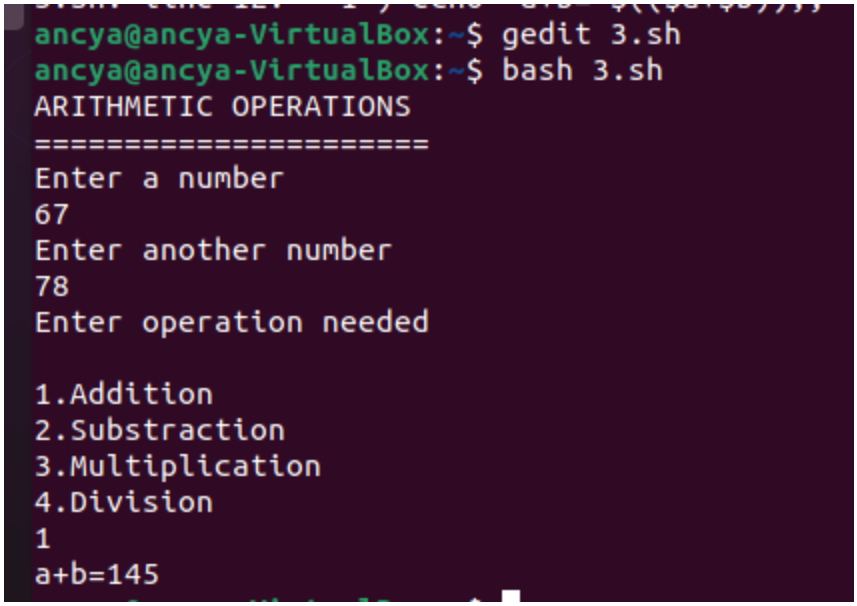
2. Write a shell script to set a value for a variable and display it on command line interface.

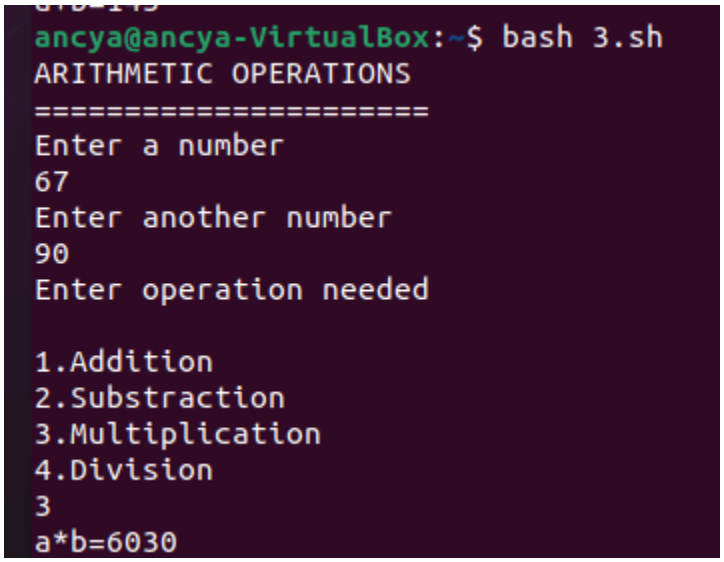
```
#!/bin/bash
echo "Display value of a Variable "
echo  "===================="
a=10
echo "$a"
```



3. Write a shell script to perform addition, substation, 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
```





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
```

```
ancya@ancya-VirtualBox:~$ gedit 4.sh
ancya@ancya-VirtualBox:~$ bash 4.sh
Finding a number
================
Enter a number
10
Number found
```

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
```

```
ancya@ancya-VirtualBox:~$ bash 5.sh
Time and Calendar
================
Today is Sunday 03 October 2021 11:38:45 AM 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
```

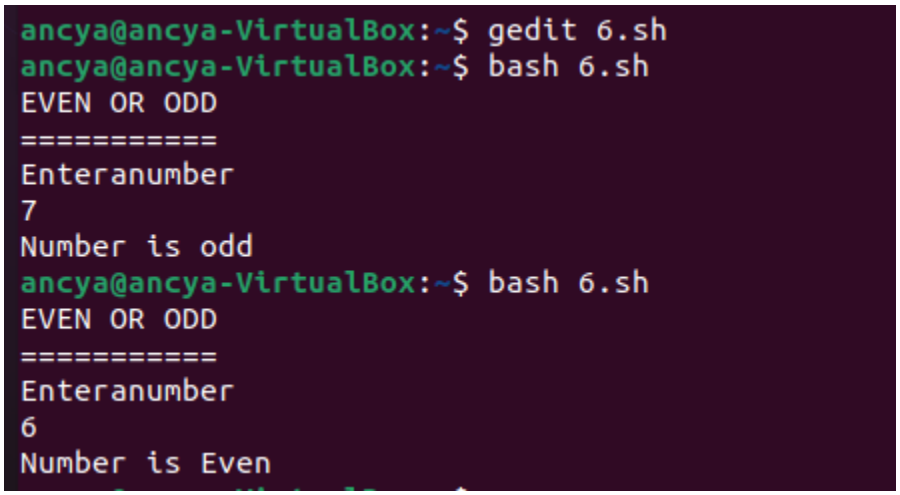
6. Write a shell script to check a number is even or odd.

```
#!/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
```



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
```

```
ancya@ancya-VirtualBox:~$ gedit 7.sh
ancya@ancya-VirtualBox:~$ bash 7.sh
Comparing numbers
================
Enter firstn umber
4
Enter second number
4
Both are Equal
```

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”
```

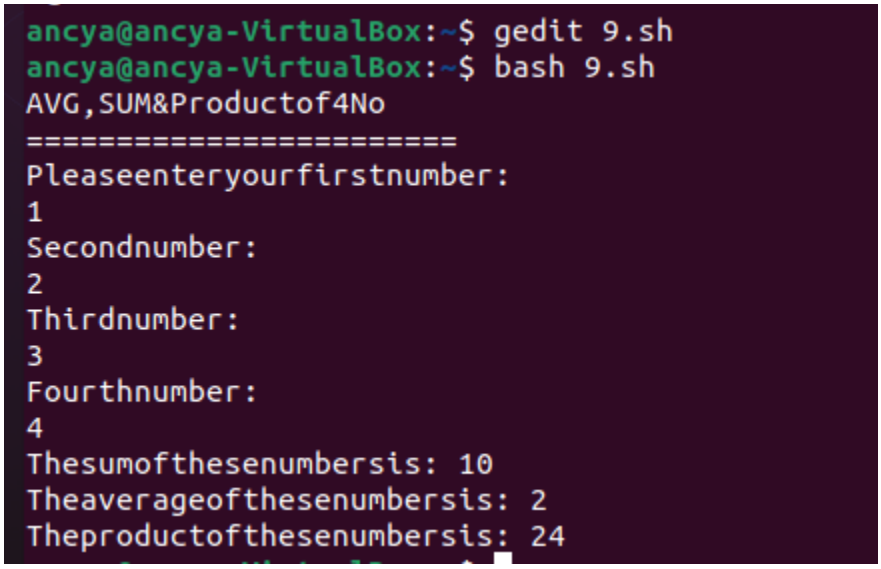
```
ancya@ancya-VirtualBox:~$ bash 8.sh
Sum of Numbers
=============
Sum of first 10 numbers=55
```

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

```
#!/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
```



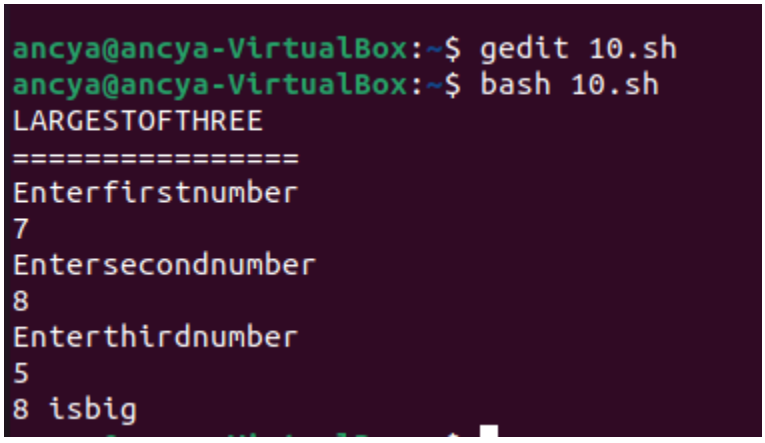
10. Write a shell script to find the smallest of three numbers.

```
#!/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 -gt $b]; then
if [$a -gt $c]; then
echo "$a is big"
else
echo "$c is big"
fi
elif [$b -gt $c];then
echo "$b is big"
else
echo "$c is big"
fi
```



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"
```

```
ancya@ancya-VirtualBox:~$ gedit 11.sh
ancya@ancya-VirtualBox:~$ bash 11.sh
Factorial
=======
Enteranumber
2
Factorialis2
```

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
```

```
ancya@ancya-VirtualBox:~$ gedit 12.sh
ancya@ancya-VirtualBox:~$ bash 12.sh
Palindrome or Not
================
Enter number to check
56
NumberisnotPalindrome
ancya@ancya-VirtualBox:~$ bash 12.sh
Palindrome or Not
================
Enter number to check
12321
NumberisPalindrome
ancya@ancya-VirtualBox:~$
```

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

```
#!/bin/bash
echo "Average of N numbers"
echo "==================="
echo "Enter Size"
read n
i=1
sum=0

echo "Enter Numbers"
while [ $i -le $n ]
do
  read num
  sum=$((sum + num))
  i=$((i + 1))
done
avg=$(echo $sum / $n | bc -l)
echo $avg
```

```
ancya@ancya-VirtualBox:~$ gedit 13.sh
ancya@ancya-VirtualBox:~$ bash 13.sh
AverageofNnumbers
==================
EnterSize
3
EnterNumbers
1
6
9
5.33333333333333333
ancya@ancya-VirtualBox:~$
```

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"
```

```
ancya@ancya-VirtualBox:~$ bash 14.sh
Sum of all digits
=============
Enter a number:
698
Sum of digits is23
```

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
```

```
ancya@ancya-VirtualBox:~$ bash 15.sh
LEAP YEAR OR NOT
===============
Enter the year
2020
2020 isleapyear
ancya@ancya-VirtualBox:~$ bash 15.sh
LEAP YEAR OR NOT
===============
Enter the year
1990
1990 is not leapyear
ancya@ancya-VirtualBox:~$
```