**POST GRADUATE DIPLOMA IN ADVANCE COMPUTING (PG-DAC)**

**OPERATING SYSTEM**

**LINUX COMMANDS AND SHELL PROGRAMMING**

**ASSIGNMENT - 2**

**1. Display the calendar of previous, current and next month of year 2021.**

Ans.

twinkledhake@ubuntu:~/Assignment2$ cal 2020

2020

January February March

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 4 1 1 2 3 4 5 6 7

5 6 7 8 9 10 11 2 3 4 5 6 7 8 8 9 10 11 12 13 14

12 13 14 15 16 17 18 9 10 11 12 13 14 15 15 16 17 18 19 20 21

19 20 21 22 23 24 25 16 17 18 19 20 21 22 22 23 24 25 26 27 28

26 27 28 29 30 31 23 24 25 26 27 28 29 29 30 31

April May June

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 4 1 2 1 2 3 4 5 6

5 6 7 8 9 10 11 3 4 5 6 7 8 9 7 8 9 10 11 12 13

12 13 14 15 16 17 18 10 11 12 13 14 15 16 14 15 16 17 18 19 20

19 20 21 22 23 24 25 17 18 19 20 21 22 23 21 22 23 24 25 26 27

26 27 28 29 30 24 25 26 27 28 29 30 28 29 30

31

July August September

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 4 1 1 2 3 4 5

5 6 7 8 9 10 11 2 3 4 5 6 7 8 6 7 8 9 10 11 12

12 13 14 15 16 17 18 9 10 11 12 13 14 15 13 14 15 16 17 18 19

19 20 21 22 23 24 25 16 17 18 19 20 21 22 20 21 22 23 24 25 26

26 27 28 29 30 31 23 24 25 26 27 28 29 27 28 29 30

30 31

October November December

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 1 2 3 4 5 6 7 1 2 3 4 5

4 5 6 7 8 9 10 8 9 10 11 12 13 14 6 7 8 9 10 11 12

11 12 13 14 15 16 17 15 16 17 18 19 20 21 13 14 15 16 17 18 19

18 19 20 21 22 23 24 22 23 24 25 26 27 28 20 21 22 23 24 25 26

25 26 27 28 29 30 31 29 30 27 28 29 30 31

twinkledhake@ubuntu:~/Assignment2$ cal 2021

2021

January February March

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 1 2 3 4 5 6 1 2 3 4 5 6

3 4 5 6 7 8 9 7 8 9 10 11 12 13 7 8 9 10 11 12 13

10 11 12 13 14 15 16 14 15 16 17 18 19 20 14 15 16 17 18 19 20

17 18 19 20 21 22 23 21 22 23 24 25 26 27 21 22 23 24 25 26 27

24 25 26 27 28 29 30 28 28 29 30 31

31

April May June

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 1 1 2 3 4 5

4 5 6 7 8 9 10 2 3 4 5 6 7 8 6 7 8 9 10 11 12

11 12 13 14 15 16 17 9 10 11 12 13 14 15 13 14 15 16 17 18 19

18 19 20 21 22 23 24 16 17 18 19 20 21 22 20 21 22 23 24 25 26

25 26 27 28 29 30 23 24 25 26 27 28 29 27 28 29 30

30 31

July August September

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 3 1 2 3 4 5 6 7 1 2 3 4

4 5 6 7 8 9 10 8 9 10 11 12 13 14 5 6 7 8 9 10 11

11 12 13 14 15 16 17 15 16 17 18 19 20 21 12 13 14 15 16 17 18

18 19 20 21 22 23 24 22 23 24 25 26 27 28 19 20 21 22 23 24 25

25 26 27 28 29 30 31 29 30 31 26 27 28 29 30

October November December

Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa

1 2 1 2 3 4 5 6 1 2 3 4

3 4 5 6 7 8 9 7 8 9 10 11 12 13 5 6 7 8 9 10 11

10 11 12 13 14 15 16 14 15 16 17 18 19 20 12 13 14 15 16 17 18

17 18 19 20 21 22 23 21 22 23 24 25 26 27 19 20 21 22 23 24 25

24 25 26 27 28 29 30 28 29 30 26 27 28 29 30 31

31

twinkledhake@ubuntu:~/Assignment2$ cal 11 2021

November 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

**2. Create a file source.txt with some text and append the content of the file to destination.txt.**

Ans.

twinkledhake@ubuntu:~/Assignment2$ echo 'Operating System' > source.txt

twinkledhake@ubuntu:~/Assignment2$ ls

'OS ALs1' OSprogram PrimeNo2.sh source.txt

twinkledhake@ubuntu:~/Assignment2$ cat source.txt

Operating System

twinkledhake@ubuntu:~/Assignment2$ cat source.txt >> destination.txt

twinkledhake@ubuntu:~/Assignment2$ cat destination.txt

Operating System

**3. Restrict user to write and execute a file named as source.txt.**

Atwinkledhake@ubuntu:~/Assignment2$ ls -l

total 20

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 08:58 source.txt

twinkledhake@ubuntu:~/Assignment2$ chmod o+x source.txt

twinkledhake@ubuntu:~/Assignment2$ chmod o+w source.txt

twinkledhake@ubuntu:~/Assignment2$ ls -l

total 20

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rw-rw-rwx 1 twinkledhake twinkledhake 17 Oct 11 08:58 source.txtns.

**4. Search any line that contains the word “echo” in file on Linux.**

Ans.

twinkledhake@ubuntu:~/Assignment2$ grep 'echo' hello.sh

echo "Hello world!"

**5. Search the word “hello” in a file and display the matched lines with their line number.**

Ans.

twinkledhake@ubuntu:~/Assignment2$ grep 'Hello' hello.sh

echo "Hello world!"

**6. Search and display the total number of times that the string ‘echo’ appears in a file named**

**source.txt**

Ans.

twinkledhake@ubuntu:~/Assignment2$ grep hello source.txt

hello

hello

twinkledhake@ubuntu:~/Assignment2$ grep -c hello source.txt

2

**7. Change the mode of permission to -rwxr–r– of file source.txt using octal representation.**

Ans.

twinkledhake@ubuntu:~/Assignment2$ ls -l

total 24

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 20 Oct 1 02:19 hello.sh

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rwxr----- 1 twinkledhake twinkledhake 34 Oct 11 09:50 source.txt

twinkledhake@ubuntu:~/Assignment2$ chmod 0744 source.txt

twinkledhake@ubuntu:~/Assignment2$ ls -l

total 24

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 20 Oct 1 02:19 hello.sh

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rwxr--r-- 1 twinkledhake twinkledhake 34 Oct 11 09:50 source.txt

**8. Display list of all the files in the current directory including the hidden file.**

**Ans.**

twinkledhake@ubuntu:~/Assignment2$ ls -a

. .. destination.txt hello.sh 'OS ALs1' OSprogram PrimeNo2.sh source.txt

or

twinkledhake@ubuntu:~/Assignment2$ ls -la

total 32

drwxr-xr-x 4 twinkledhake twinkledhake 4096 Oct 11 09:50 .

drwxr-xr-x 17 twinkledhake twinkledhake 4096 Oct 3 05:38 ..

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 20 Oct 1 02:19 hello.sh

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rwxr--r-- 1 twinkledhake twinkledhake 34 Oct 11 09:50 source.txt

**9. Create a directory named as OS and create three files inside OS directory named process.txt,**

**thread.txt and batch.txt. Now delete that directory.**

**Ans.**

twinkledhake@ubuntu:~/Assignment2$ mkdir OS

twinkledhake@ubuntu:~/Assignment2$ ls -l

total 28

-rw-rw-r-- 1 twinkledhake twinkledhake 17 Oct 11 09:07 destination.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 20 Oct 1 02:19 hello.sh

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 11 10:29 OS

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 4 21:26 'OS ALs1'

drwxrwxr-x 2 twinkledhake twinkledhake 4096 Oct 1 04:36 OSprogram

-rw-rw-r-- 1 twinkledhake twinkledhake 150 Oct 3 09:27 PrimeNo2.sh

-rwxr--r-- 1 twinkledhake twinkledhake 34 Oct 11 09:50 source.txt

twinkledhake@ubuntu:~/Assignment2$ cd OS

twinkledhake@ubuntu:~/Assignment2/OS$ touch process.txt

twinkledhake@ubuntu:~/Assignment2/OS$ touch thread.txt

twinkledhake@ubuntu:~/Assignment2/OS$ touch batch.txt

twinkledhake@ubuntu:~/Assignment2/OS$ ls -l

total 0

-rw-rw-r-- 1 twinkledhake twinkledhake 0 Oct 11 10:34 batch.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 0 Oct 11 10:34 process.txt

-rw-rw-r-- 1 twinkledhake twinkledhake 0 Oct 11 10:34 thread.txt

twinkledhake@ubuntu:~/Assignment2/OS$ rm process.txt thread.txt batch.txt

twinkledhake@ubuntu:~/Assignment2/OS$ cd ~/Assignment2

twinkledhake@ubuntu:~/Assignment2$ rmdir OS

twinkledhake@ubuntu:~/Assignment2$ ls

destination.txt 'OS ALs1' PrimeNo2.sh

hello.sh OSprogram source.txt

**10. Assign the IP address 192.168.10.24 to your local machine of linux using commands.**

**Ans.**

**11. Write a shell program to:**

**a. Take the input number from user and find the number is even or odd**

**Ans.**

echo "Enter No.: "

read a

if [ $((a % 2)) -eq 0 ]

then

echo "$a is Even Number"

else

echo "$a is Odd Number"

fi

**b. Find the greatest number amongst three given inputs.**

**Ans.**

echo "Enter Num1"

read num1

echo "Enter Num2"

read num2

echo "Enter Num3"

read num3

if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]

then

echo $num1

elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]

then

echo $num2

else

echo $num3

fi

**c. Swap two numbers taken by user.**

**Ans.**

echo "Enter a:"

read a

echo "Enter b:"

read b

echo "Before Swaping: $a $b"

temp=$a

a=$b

b=$temp

echo "After Swaping: $a $b"

**d. Find the average of five numbers entered by user.**

**Ans.**

echo "Enter 5 Num:"

for i in 1 2 3 4 5

do

echo "Enter num:"

read n[$i]

done

sum=0

for i in ${n[@]}

do

((sum=$sum + $i))

done

avg=$(echo "scale=2; $sum / $i" | bc)

echo "Addition of Numbers: $sum"

echo "Average of Numbers: $avg"

**e. Find the sum of n numbers**

**Ans.**

echo "Enter Size(N)"

read N

i=1

sum=0

echo "Enter Numbers"

while [ $i -le $N ]

do

read num #get number

sum=$((sum + num)) #sum+=num

i=$((i + 1))

done

echo $sum