

OS Lab assignment

Week-1

Name- Tirtharaj Sinha

Class roll no. 74

Section - 3i

Year- 3rd

Sem – 5th

Enrolment no. 12019009001134

Stream – CSE

Date - Saturday, 17 July 2021

1. List the names of the users logged in.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ whoami  
tirtha
```

2. Find out your terminal's device name.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ hostname  
DESKTOP-GJ05SAR  
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ |
```

3. Display current date in the form dd/mm/yy.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ date  
Sat Jul 17 11:22:10 IST 2021
```

4. Find out your machine's name and the version of the operating system.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ cat /etc/os-release  
NAME="Ubuntu"  
VERSION="20.04.2 LTS (Focal Fossa)"  
ID=ubuntu  
ID_LIKE=debian  
PRETTY_NAME="Ubuntu 20.04.2 LTS"  
VERSION_ID="20.04"  
HOME_URL="https://www.ubuntu.com/"  
SUPPORT_URL="https://help.ubuntu.com/"  
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"  
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"  
VERSION_CODENAME=focal  
UBUNTU_CODENAME=focal  
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ hostname  
DESKTOP-GJ05SAR  
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ uptime  
11:30:56 up 27 min, 0 users, load average: 0.52, 0.58, 0.59
```

5. Clear the screen and place the cursor at row 12, column 25.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ tput cup 12 25
```

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ |
```

6. Find out the users who are idling.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ uname -a
Linux DESKTOP-GJ05SAR 4.4.0-19041-Microsoft #488-Microsoft Mon Sep 01 13:43:00 PST 2020 x86_64 x86_64 x86_64 GNU/Linux
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$
```

7. Create a directory structure in your home directory (*maindirectory*, two subdirectories *directory1* and *directory2* under *maindirectory*) while being in your home directory.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ mkdir maindir
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA$ cd maindir/
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ mkdir dir1
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ mkdir dir2
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ ls
dir1  dir2
```

8. Change to the directory *directory2*.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ cd dir2
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$
```

9. Create a file called *biodata* and store your name, age, gender in it.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ touch biodata
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
biodata
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ notepad biodata
notepad: command not found
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cat >> biodata
name:Tirtharaj Sinha
age:20
gender:male
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cat >> biodata
```

10. Make a copy of the *biodata* into another file *text* within the directory1.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cp biodata text
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
biodata  text
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cat text
name:Tirtharaj Sinha
age:20
gender:male
```

11. Move the *text* from *directory1* to *directory2*.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ rm biodata
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cd ..
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ cd dir1
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir1$ ls
biodata
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir1$ mv biodata /mnt/c/Users/TIRTHA/maindir/dir2
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir1$ cd ..
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ cd dir2
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
biodata
```

12. Combine the content of *biodata* and *text* in another new file *datatext*.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cat biodata text > datatext
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
biodata  datatext  text
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ cat datatext
name:Tirtharaj Sinha
age:20
gender:male
name:Tirtharaj Sinha
age:20
gender:male
```

13. Rename the file *text* to *newtext*.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ mv datatext newtext
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir/dir2$ ls
biodata  newtext  text
```

14. Delete the directory *directory1*.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ rmdir dir1
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ ls
dir2
```

15. Display the calendar of current month, previous month and next month.

```
tirtha@DESKTOP-GJ05SAR:/mnt/c/Users/TIRTHA/maindir$ cal -3
```

June 2021							July 2021							August 2021						
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	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29	30				25	26	27	28	29	30	31	29	30	31				

OS lab

Assignment 2

Name- Tirtharaj Sinha

Class roll no. 74

Section - 3i

Year- 3rd

Sem – 5th

Enrolment no. 12019009001134

Stream – CSE

Date -Monday, 26 July 2021

1. Change the permissions of the file *newtext* to rw-rw-rw-.

```
tirtha@DESKTOP-GJO5SAR:~$ touch newfile
tirtha@DESKTOP-GJO5SAR:~$ ls
newfile
tirtha@DESKTOP-GJO5SAR:~$ ls -l
total 0
-rw-r--r-- 1 tirtha tirtha 0 Jul 26 20:28 newfile
tirtha@DESKTOP-GJO5SAR:~$ chmod 666 newfile
tirtha@DESKTOP-GJO5SAR:~$ stat newfile
  File: newfile
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 2h/2d  Inode: 7318349394949667  Links: 1
Access: (0666/-rw-rw-rw-)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 20:28:36.448385800 +0530
Modify: 2021-07-26 20:28:36.448385800 +0530
Change: 2021-07-26 20:29:14.221387700 +0530
 Birth: -
```

2. Recreate the file in such a way that only owner can read and write the file newtext.

```
tirtha@DESKTOP-GJO5SAR:~$ chmod a-w newfile
tirtha@DESKTOP-GJO5SAR:~$ stat newfile
  File: newfile
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 2h/2d  Inode: 7318349394949667  Links: 1
Access: (0444/-r--r--r--)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 20:28:36.448385800 +0530
Modify: 2021-07-26 20:28:36.448385800 +0530
Change: 2021-07-26 21:41:17.091608400 +0530
 Birth: -
tirtha@DESKTOP-GJO5SAR:~$ chmod u+w newfile

Command 'chmod' not found, did you mean:

  command 'chmod' from deb coreutils (8.30-3ubuntu2)

Try: sudo apt install <deb name>

tirtha@DESKTOP-GJO5SAR:~$ chmod u+w newfile
tirtha@DESKTOP-GJO5SAR:~$ stat newfile
  File: newfile
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 2h/2d  Inode: 7318349394949667  Links: 1
Access: (0644/-rw-r--r--)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 20:28:36.448385800 +0530
Modify: 2021-07-26 20:28:36.448385800 +0530
Change: 2021-07-26 21:41:49.761757300 +0530
 Birth: -
```

3. Recreate the file in such a way that no one can access the file newtext.

```
tirtha@DESKTOP-GJ05SAR:~$ touch newfile
tirtha@DESKTOP-GJ05SAR:~$ chmod 000 newfile
tirtha@DESKTOP-GJ05SAR:~$ ls -l newfile
----- 1 tirtha tirtha 0 Jul 26 21:50 newfile
tirtha@DESKTOP-GJ05SAR:~$
```

4. Recreate the file in such a way that everyone can read, write ,execute the file newtext.

```
tirtha@DESKTOP-GJ05SAR:~$ ls -l newfile
----- 1 tirtha tirtha 0 Jul 26 21:50 newfile
tirtha@DESKTOP-GJ05SAR:~$ chmod 777 newfile
tirtha@DESKTOP-GJ05SAR:~$ ls -l newfile
-rwxrwxrwx 1 tirtha tirtha 0 Jul 26 21:50 newfile
tirtha@DESKTOP-GJ05SAR:~$
```

5. Use command(s) to create a directory in your home directory called KeepOut whose contents can be read only by you.

```
tirtha@DESKTOP-GJ05SAR:~$ mkdir keepout
tirtha@DESKTOP-GJ05SAR:~$ stat keepout
  File: keepout
  Size: 4096          Blocks: 0          IO Block: 4096   directory
Device: 2h/2d  Inode: 11258999068518991  Links: 1
Access: (0755/drwxr-xr-x)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 22:00:32.241447000 +0530
Modify: 2021-07-26 22:00:32.241447000 +0530
Change: 2021-07-26 22:00:32.241447000 +0530
 Birth: -
tirtha@DESKTOP-GJ05SAR:~$ chmod -wx filename
chmod: cannot access 'filename': No such file or directory
tirtha@DESKTOP-GJ05SAR:~$ chmod -wx keepout
tirtha@DESKTOP-GJ05SAR:~$ stat keepout
  File: keepout
  Size: 4096          Blocks: 0          IO Block: 4096   directory
Device: 2h/2d  Inode: 11258999068518991  Links: 1
Access: (0444/dr--r--r--)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 22:00:32.241447000 +0530
Modify: 2021-07-26 22:00:32.241447000 +0530
Change: 2021-07-26 22:05:40.274388300 +0530
 Birth: -
tirtha@DESKTOP-GJ05SAR:~$
```

6. List all filenames that end with a digit.

```
tirtha@DESKTOP-GJ05SAR:~$ find -name '*[!0-9][0-9]'
./ff2
./file1
```

7. List all files in the current directory whose second character is a digit.

```
tirtha@DESKTOP-GJ05SAR:~$ find -name '?[0-9]*'
./f1
./f2f
```

8. List all filenames starting with 'a' or 'b' or 'm'.

```
tirtha@DESKTOP-GJ05SAR:~$ ls
afile bfile cfile keepout mfile newfile
tirtha@DESKTOP-GJ05SAR:~$ find -name '[abm]*'
./afile
./bfile
./mfile
tirtha@DESKTOP-GJ05SAR:~$
```

9. create Multiple files(d1,d2,d3,d4) with different extension.

```
tirtha@DESKTOP-GJ05SAR:~$ ls
keepout newfile
tirtha@DESKTOP-GJ05SAR:~$ touch d1.txt
tirtha@DESKTOP-GJ05SAR:~$ touch d2.sh
tirtha@DESKTOP-GJ05SAR:~$ touch d3.cpp
tirtha@DESKTOP-GJ05SAR:~$ touch d4.py
tirtha@DESKTOP-GJ05SAR:~$ ls
d1.txt d2.sh d3.cpp d4.py keepout newfile
```

10. Set modification time timestamp to 2019,26th july, 11-34.

```
tirtha@DESKTOP-GJ05SAR:~$ stat newfile
File: newfile
Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 2h/2d   Inode: 22799473113573826 Links: 1
Access: (0777/-rwxrwxrwx)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 21:50:39.650297200 +0530
Modify: 2021-07-26 21:50:39.650297200 +0530
Change: 2021-07-26 21:54:46.722529600 +0530
Birth: -
tirtha@DESKTOP-GJ05SAR:~$ touch -m -t 201907261134 newfile
tirtha@DESKTOP-GJ05SAR:~$ stat newfile
File: newfile
Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 2h/2d   Inode: 22799473113573826 Links: 1
Access: (0777/-rwxrwxrwx)  Uid: ( 1000/  tirtha)   Gid: ( 1000/  tirtha)
Access: 2021-07-26 21:50:39.650297200 +0530
Modify: 2019-07-26 11:34:00.000000000 +0530
Change: 2021-07-26 22:54:51.873354000 +0530
Birth: -
tirtha@DESKTOP-GJ05SAR:~$
```


Os lab

assignment 3

Name – Tirtharaj sinha
class roll no-. 74
section – 3i
enrollment no. 12019009001134
stream- CSE
date- 2/8/21

q1:

```
tirtha tirtha-HP-Notebook ~ > developer > github > nptel--programming-in-c_plus_plus > mai
n $ find -type f -name "a*" > file1.txt
tirtha tirtha-HP-Notebook ~ > developer > github > nptel--programming-in-c_plus_plus > mai
n ? $ cat file1.txt
file1.txt README.md 'week (1)' 'week (2)'
tirtha tirtha-HP-Notebook ~ > developer > github > nptel--programming-in-c_plus_plus > mai
n ? $ cat file1.txt
./git/hooks/applypatch-msg.sample
tirtha tirtha-HP-Notebook ~ > developer > github > nptel--programming-in-c_plus_plus > mai
n ? $
```

q2:

```
tirtha tirtha-HP-Notebook ~ > developer > github > nptel--programming-in-c_plus_plus > mai
n ? $ cat -n file1.txt | sed '5,10!d'
are also p
6 Line 5
7 Line 6
8 Line 7
9 Line 8
10 Line 9
```

q3:

```
tirtha > tirtha-HP-Notebook ~ > $ tput lines
24
tirtha > tirtha-HP-Notebook ~ > $ cat file1.txt
tirtha > tirtha-HP-Notebook ~ > $ tput cols
95
tirtha > tirtha-HP-Notebook ~ > $
```

q4:

```
tirtha > tirtha-HP-Notebook ~ > $ echo -e "\033[1mthis text is bold\033[0m / this is notrmal"
this text is bold / this is notrmal
tirtha > tirtha-HP-Notebook ~ > $ tput bold ; echo "text"
text
tirtha > tirtha-HP-Notebook ~ > $
```

q5:

```
tirtha > tirtha-HP-Notebook ~ > $ echo -e "\033[4mthis text is bold\033[0m / this is notrmal"
this text is bold / this is notrmal
tirtha > tirtha-HP-Notebook ~ > $
```

q6:

```
tirtha > tirtha-HP-Notebook ~ > developer > $ wc -l *.txt
3 file1.txt
4 file2.txt
7 total
```

q8:

```
tirtha > tirtha-HP-Notebook ~ > developer > github > npitel-programming-in-c plus plus > week (1) > main > ? > $ du -hsx * | sort -rh | head -5
64K programming_assign_1.exe
60K programming_assign_2.exe
56K helloworld.exe
8.0K programming_assign_1.o
4.0K programming_assign_3.cpp
tirtha > tirtha-HP-Notebook ~ > developer > github > npitel-programming-in-c plus plus > week (1) > main > ? > $
```

q9:

```
tirtha > tirtha-HP-Notebook ~ > developer > $ cat file1.txt file2.txt
line1
line2
line3
line1
line2
line3
line4
tirtha > tirtha-HP-Notebook ~ > developer > $
```

q10:

```
tirtha@tirtha-HP-Notebook ~ > developer > $ sort file1.txt  
line1  
line2  
line3
```

q11:

```
tirtha@tirtha-HP-Notebook ~ > developer > $ cut -c 1 file1.txt  
l  
l  
l
```

q12:

```
tirtha@tirtha-HP-Notebook ~ > developer > $ echo "Welcome To LinuxMint"  
Welcome To LinuxMint
```

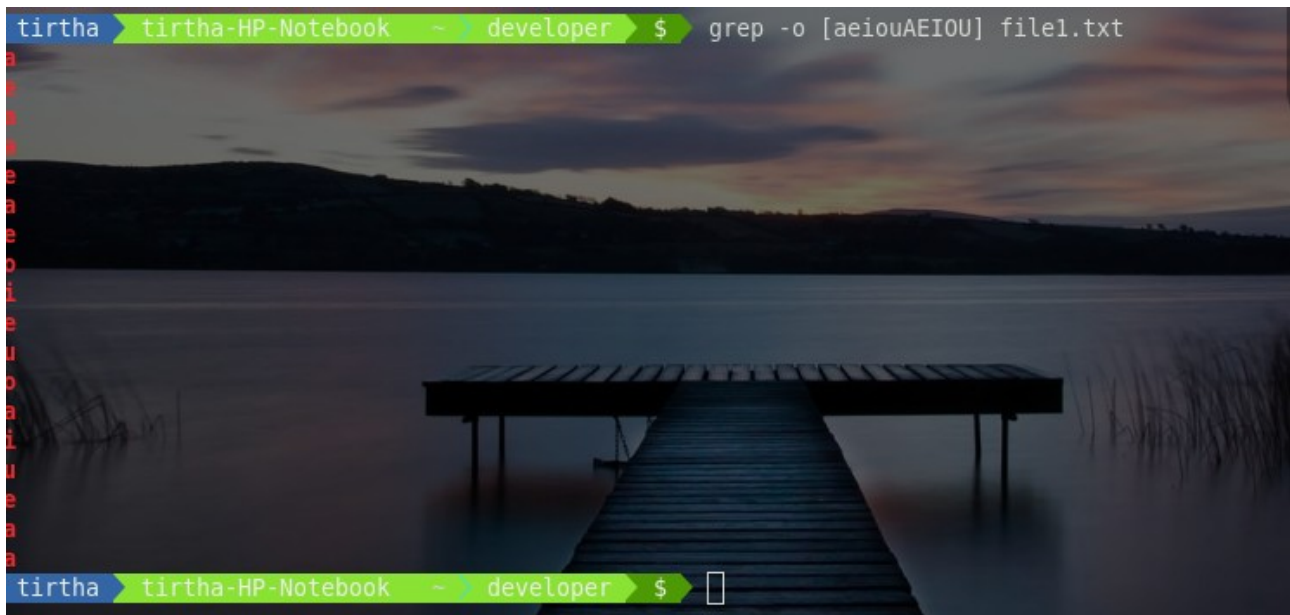
Os lab

assignment 4

Name – Tirtharaj sinha
class roll no-. 74
Section – 3i
Enrollment no. 12019009001134
Stream- CSE
Date- 09/08/21

q1:

```
tirtha > tirtha-HP-Notebook ~ > developer > $ grep -o [aeiouAEIOU] file1.txt
a
e
o
e
a
e
o
i
u
e
a
tirtha > tirtha-HP-Notebook ~ > developer > $
```



q2:

```
tirtha > tirtha-HP-Notebook ~ > developer $ grep -i '^[aeiou]' file1.txt
apple
ball
cat
eagle
frog
intel
just
owl
graphics
uefa
amd
tirtha > tirtha-HP-Notebook ~ > developer $
```

q3:

```
tirtha > tirtha-HP-Notebook ~ > developer $ touch states
tirtha > tirtha-HP-Notebook ~ > developer $
```

q4:

```
tirtha > tirtha-HP-Notebook ~ > developer $ grep '^a' states
apple
amd
tirtha > tirtha-HP-Notebook ~ > developer $
```

q5:

```
tirtha > tirtha-HP-Notebook ~ > developer $ grep 'i$' states
ravi
tirtha > tirtha-HP-Notebook ~ > developer $
```

q6:

```
tirtha > tirtha-HP-Notebook ~ > developer $ echo "scale=2;100.00/3" | bc -l
33.33
tirtha > tirtha-HP-Notebook ~ > developer $
```

q7:

```
tirtha > tirtha-HP-Notebook ~ > $ echo "var=10;var+1" | bc
11
tirtha > tirtha-HP-Notebook ~ > $
```

q8:

```
tirtha > tirtha-HP-Notebook ~ > $ echo "obase=2;ibase=10;10" | bc
1010
tirtha > tirtha-HP-Notebook ~ > $
```

q9:


```
tirtha> tirtha-HP-Notebook ~> $ echo "obase=10;ibase=2;1101001" | bc
105
tirtha> tirtha-HP-Notebook ~> $
```

q10:

```
tirtha> tirtha-HP-Notebook ~> developer> $ uniq -c states
1 apple
1 intel
tirtha> tirtha-HP-Notebook ~> $ echo "obase=2;ibase=10;10" | bc
10
1 hp
1 amd
1 dog
1 cat
1 python
1 chrome
1 weather
tirtha> tirtha-HP-Notebook ~> $ echo "obase=10;ibase=2;1101001" | bc
105
1 citya
1 ravi
```

q11:

```
tirtha> tirtha-HP-Notebook ~> developer> $ uniq -d name
linuxMint
apple
```

q12:

```
tirtha> tirtha-HP-Notebook ~> developer> $ diff name states
12,18d11
< intel
< chrome
< linuxMint
< linuxMint
< intel
< apple
< apple
tirtha> tirtha-HP-Notebook ~> developer> $
```

q13:

```
tirtha > tirtha-HP-Notebook ~ > developer $ cat > file1
teaching with ppt in lab does not make it a lab calss
^Z
[6]+ Stopped cat > file1
tirtha > tirtha-HP-Notebook ~ > developer $ cat > file2
writing code in copy does not help in real life.
^Z
[7]+ Stopped cat > file2
tirtha > tirtha-HP-Notebook ~ > developer $ cat file1
teaching with ppt in lab does not make it a lab calss
tirtha > tirtha-HP-Notebook ~ > developer $ cat file2
writing code in copy does not help in real life.
tirtha > tirtha-HP-Notebook ~ > developer $
```

q14:

```
tirtha > tirtha-HP-Notebook ~ > developer $ diff file1 file2
1c1
< teaching with ppt in lab does not make it a lab calss
---
> writing code in copy does not help in real life.
```

q15:

```
tirtha > tirtha-HP-Notebook ~ > developer $ uname -v
#90-Ubuntu SMP Fri Jul 9 22:49:44 UTC 2021
tirtha > tirtha-HP-Notebook ~ > developer $
```

Os lab

assignment 5

Name – Tirtharaj sinha
class roll no-. 74
Section – 3i
Enrollment no. 12019009001134
Stream- CSE
Date- 16/08/21

Lab Assignment

q1.

```
#!/bin/sh

echo "Enter a integer:"
read num
if [  $((num\%2))$  -eq 0 ]
then
echo "$num is even"
else
echo "$num is odd"
fi
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ bash even_odd.sh
Enter a integer:
10
10 is even
```

q2.

```
#!/bin/sh

echo "put a year value:"
read year
if test "$year" = ""
then
unset year
year=`date +%Y`
fi
if [ $((year%4)) -eq 0 ]
then
if [ $((year%100)) -eq 0 ]
then
if [ $((year%400)) -eq 0 ]
then
echo "$year is leap year"
else
echo "$year is not leap year"
fi
else
echo "$year is leap year"
fi
else
echo "$year is not leap year"
fi
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > bash leap_yer.sh
put a year value:
1900
1900 is not leap year
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > bash leap_yer.sh
put a year value:
2021 is not leap year
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > □
```

q3:

```
#!/bin/sh
echo "$1, $2, $3"

if [ $1 -gt $2 ] && [ $1 -gt $3 ]
then
echo "$1 is greatest of three"
elif [ $2 -gt $1 ] && [ $2 -gt $3 ]
then
echo "$2 is greatest of three"
else
echo "$3 is greatest of three"

fi
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > bash max_of_three.sh 5 10 9
5, 10, 9
10 is greatest of three
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > bash max_of_three.sh 100 200 300
100, 200, 300
300 is greatest of three
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ > □
```

q4:

```
#!/bin/bash

echo "Enter a integer:"

read n
for (( i=2 ; i <= ( $n / 2 ) ; i++ ))
do
q=$(( $n % i))
if [ $q -eq 0 ]
then
echo "Not Prime"
exit
fi
done
echo "Prime"
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ > bash prime.sh
Enter a integer:
20
Not Prime
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ > bash prime.sh
Enter a integer:
11
Prime
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ > □
```

Home Assignment:

q1:

```
#!/bin/bash

echo "Enter a integer:"

read n
fac=1
for (( i=$n ; i > 1 ; i-- ))
do
fac=$((fac * i))
done

echo "$fac"
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ > bash factorial.sh
Enter a integer:
10
3628800
□
```


q2:

```
#!/bin/bash

for a in 1 2 3
do
for b in 1 2 3
do
for c in 1 2 3
do
if [ $a -ne $b ] && [ $b -ne $c ] && [ $a -ne $c ]
then
echo "$a$b$c"
fi
done
done
done
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ bash combination.sh
123
132
213
231
312
321
```

q3:

```
#!/bin/bash
echo "Enter lower limit"
read x
echo "Enter upper limit"
read y
f=0
for (( i=x ; i <= $y ; i++ ))
do
for (( j=2 ; j <= ( $i / 2 ) ; j++ ))
do
if [ $((i%j)) -eq 0 ]
then
f=1
break
fi
done
if [ $f -eq 0 ]
then
echo "$i prime"
fi
f=0
done
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ touch prime_range.sh
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ code prime_range.sh
tirtha > tirtha-HP-Notebook ~ > developer > shell_scripts > $ bash prime_range.sh
Enter lower limit
10
Enter upper limit
15
11 prime
13 prime
```

q4:

```
#!/bin/bash

echo "enter a integer"
read num
total=0
while [ $num -gt 0 ]
do
temp=$((num%10))
total=$((total+temp))
num=$((num/10))
done

echo "$total"
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ bash sum_of_digit.sh
enter a integer
21
1
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ bash sum_of_digit.sh
enter a integer
35
1
```

q5:

```
#!/bin/bash

echo "enter basic salary"
basic=1000

da=$((basic*52/100))
echo "da=$da"

hra=$((basic*15/100))
echo "hra=$hra"

bd=$((basic+da))
pf=$((bd*12/100))
echo "pf=$pf"

gs=$((basic+da+hra))
echo "gs=$gs"

hs=$((gs-pf))
echo "hs=$hs"
```

```
tirtha > tirtha-HP-Notebook ~ > developer > shell scripts > $ bash salary.sh
enter basic salary
1000
basic salary=1000
DA=520
HRA=150
CPF=182
gross salarys=1670
Take home salary=1488
```

Os lab

assignment 6

Name – Tirtharaj sinha
class roll no-. 74
Section – 3i
Enrollment no. 12019009001134
Stream- CSE
Date- 23/08/21

Lab Assignment

q1.

```
#!/bin/bash

echo "enter a integer"
read num
reverse=0
while [ $num -gt 0 ]
do
temp=$((num%10))
reverse=$((reverse*10+temp))
num=$((num/10))
done

echo "$reverse"
```



```
tirtha tirtha-HP-Notebook ~ > developer > github > shell scripts > basic >
main ? $ bash reverse_num.sh
enter a integer
123
321
```

q2.

```
#!/bin/bash

echo "enter two integer"
read a b
min=0
if [ $a -lt $b ]
then
min=$a
else
min=$b
fi
hcf=1
for (( i=2 ; i <= ( $min) ; i++ ))
do
if [ $((a%i)) -eq 0 ] && [ $((b%i)) -eq 0 ]
then
hcf=$i
fi
done

if [ $hcf -eq 1 ]
then
echo "$a and $b are Co Prime"
else
echo "$a and $b are not Co Prime"
fi
```



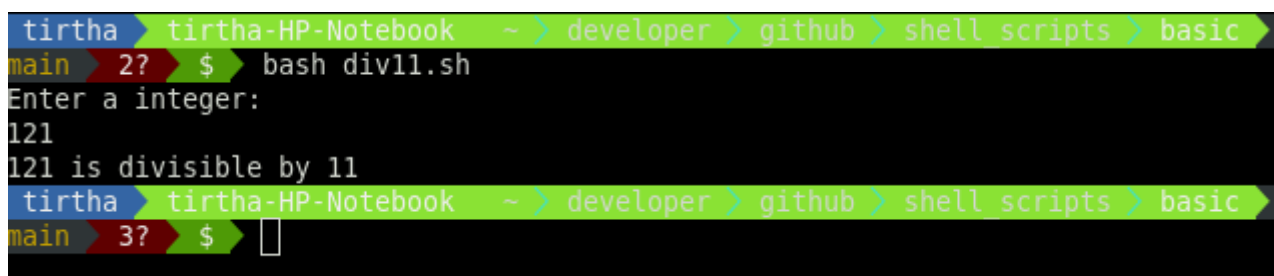
A terminal window showing the execution of the co_prime.sh script. The prompt is 'tirtha@tirtha-HP-Notebook ~ > developer > github > shell scripts > basic'. The user enters 'main > ? > \$' and runs 'bash co_prime.sh'. The script prompts 'enter two integer' and the user enters '10 13'. The output is '10 and 13 are Co Prime'.

q3:

```
#!/bin/bash
```

```
echo "Enter a integer:"
read n

if [ $(( $n % 11)) -eq 0 ]
then
echo "$n is divisible by 11"
else
echo "$n is not divisible by 11"
fi
```



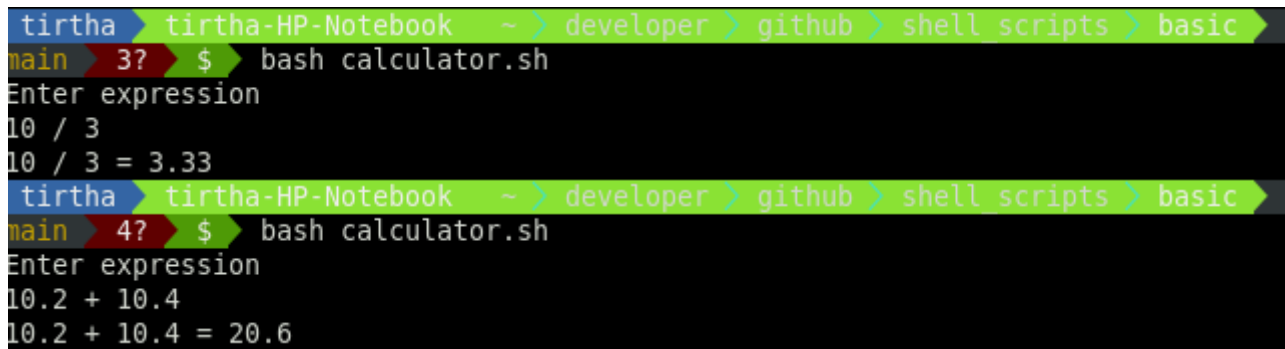
A terminal window showing the execution of the div11.sh script. The prompt is 'tirtha@tirtha-HP-Notebook ~ > developer > github > shell scripts > basic'. The user enters 'main > 2? > \$' and runs 'bash div11.sh'. The script prompts 'Enter a integer:' and the user enters '121'. The output is '121 is divisible by 11'. Below this, the prompt is 'tirtha@tirtha-HP-Notebook ~ > developer > github > shell scripts > basic' and the user enters 'main > 3? > \$' followed by an empty input box.

q4:

```
#!/bin/bash
```

```
echo "Enter expression"
read a op b
result="invalid operator"
if [ "$op" == "+" ]
then
result=$(echo "scale=2;$a+$b" |bc);
elif [ "$op" == "-" ]
then
result=$(echo "scale=2;$a-$b"|bc);
elif [ "$op" == "*" ]
then
result=$(echo "scale=2;$a*$b"|bc);
elif [ "$op" == "/" ]
then
result=$(echo "scale=2;$a/$b" |bc);
fi
```

```
echo "$a $op $b = $result"
```



```
tirtha tirtha-HP-Notebook ~ > developer > github > shell scripts > basic >
main 3? $ bash calculator.sh
Enter expression
10 / 3
10 / 3 = 3.33
tirtha tirtha-HP-Notebook ~ > developer > github > shell scripts > basic >
main 4? $ bash calculator.sh
Enter expression
10.2 + 10.4
10.2 + 10.4 = 20.6
```

Home Assignment:

q1:

```
#!/bin/bash
i=1
n=$((10/2))
while [ $i -lt 10 ]
do line=$((i/2))
for (( k=0 ; k < $((n-1-line)) ; k++ ))
do
echo -n " "
done

for (( j=0 ; j < ($i) ; j++ ))
do
echo -n "*"
done
```



```
i=$((i+2))
echo " "
done
```

```
tirtha > tirtha-HP-Notebook ~ > developer > github > shell scripts > basic
main 5? $ bash pattern.sh
*
***
*****
*****
*****
```

q2:

```
#!/bin/bash
echo "put a string"
read string
len=${#string}

for ((i = $len - 1; i >= 0; i--))
do
reverse="$reverse${string:$i:1}"
done

if [ "$string" == "$reverse" ]
then
echo "$string is palindrome"
else
echo "$string is not palindrome"
fi
```

```
tirtha > tirtha-HP-Notebook ~ > developer > github > shell scripts > basic
main 6? $ bash palindrome.sh
put a string
hello
hello is not palindrome
tirtha > tirtha-HP-Notebook ~ > developer > github > shell scripts > basic
main 7? $ bash palindrome.sh
put a string
radar
radar is palindrome
```

q3:

```
#!/bin/bash

echo -n "enter string : "
read str
v=$(echo $str | grep -o -i "[aeiou]" | wc -l)
c=$(echo $str | grep -o -i "[^aeiou ]" | wc -l)
echo "number of vowels = $v"
echo "number of consonants = $c"
```

```
tirtha > tirtha-HP-Notebook ~ > developer > github > shell scripts > basic  
main > 7? > $ bash find_vowel.sh  
enter string : this is linux  
number of vowels = 4  
number of consonents = 7
```

q4:

```
#!/bin/bash  
echo "list of users:"  
users
```

```
tirtha > tirtha-HP-Notebook ~ > developer > github > shell scripts > basic  
main > 8? > $ bash user_list.sh  
list of users:  
tirtha
```

Os Lab

week 7

Name – Tirtharaj Sinha
Stream – CSE
Year - 3rd
section – 3i
class roll no – 74
enrollment no. 12019009001134
Date – 13/09/21

=====

question 1

```
#!/bin/bash
echo -n "enter no of rows : "
read row
for (( i=1 ; i <= $row ; i++ ))
do
for (( j=0 ; j < ($i) ; j++ ))
do
echo -n "*"
done
echo ""
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash half_pyramid.sh
enter no of rows : 5
*
**
***
****
*****
echo -n "*"
done
echo ""
done
```

question 2

```
#!/bin/bash
row=8

for (( i=1 ; i <= $row ; i++ ))
do
for (( j=$row ; j >=i ; j-- ))
do
echo -n " "
done
for (( k=0 ; k < $((2*i-1)) ; k++ ))
do
echo -n "*"
done
echo ""
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash full_pyramid.sh
```

```
      *
     ***
    *****
   ********
  **********
 ****
*****
*****
*****
*****
*****
```

question 3

```
#!/bin/bash
echo -n "enter no of rows : "
read row
for (( i=1 ; i <= $row ; i++ ))
do
for (( j=0 ; j < ($i) ; j++ ))
do
echo -n "$i"
done
echo ""
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash half_pyramid_number.sh
enter no of rows :5
1
22
333
4444
55555
```

question 4

```
#!/bin/bash
row=8

for (( i=1 ; i <= $row ; i++ ))
do
for (( j=$row ; j >= i ; j-- ))
do
echo -n " "
done
for (( k=0 ; k < $((2*i-1)) ; k++ ))
do
echo -n "$i"
done
echo ""
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash full_pyramid_number.sh
1
222
33333
4444444
555555555
66666666666
7777777777777
888888888888888
```

question 5

```
#!/bin/bash
echo -n "enter no of rows : "
read row
for (( i=$row ; i > 0 ; i-- ))
do
for (( j=$i ; j > 0 ; j-- ))
do
echo -n "$i"
done
echo ""
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash inverted_half_pyramid.sh
enter no of rows : 7
7777777
6666666
5555555
4444444
3333333
2222222
1111111
```


Os lab

Week 8

Name – Tortharaj Sinha
Stream – CSE
Section – 3i
Class roll no. - 74
Enrollment no – 12019009001134
Date - 16/0/9/21

=====

Lab Assignment:

```
#!/bin/bash
for file in *
do
    # checking whether it is a file or not
    if [ -f $file ]
    then
        if [ -r $file -a -w $file ]
        then
            # checking whether a file has all 3 permissions or not, if yes, then print full details of the file
            ls -l $file
        fi
    fi
done
```

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ bash file_check.sh
-rw-rw-r-- 1 tirtha tirtha 369 Sep 16 16:37 calculator.sh
-rw-rw-r-- 1 tirtha tirtha 257 Sep 16 16:37 combination.sh
-rw-rw-r-- 1 tirtha tirtha 338 Sep 16 16:37 co_prime.sh
-rw-rw-r-- 1 tirtha tirtha 155 Sep 16 16:37 div11.sh
-rw-rw-r-- 1 tirtha tirtha 128 Sep 16 16:37 even_odd.sh
-rw-rw-r-- 1 tirtha tirtha 126 Sep 16 16:37 factorial.sh
-rw-rw-r-- 1 tirtha tirtha 308 Sep 16 16:37 file_check.sh
-rw-rw-r-- 1 tirtha tirtha 203 Sep 16 16:37 find_vowel.sh
-rw-rw-r-- 1 tirtha tirtha 268 Sep 16 16:37 full_pyramid_number.sh
-rw-rw-r-- 1 tirtha tirtha 254 Sep 16 16:37 full_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 280 Sep 16 16:37 good_morning.sh
-rw-rw-r-- 1 tirtha tirtha 190 Sep 16 16:37 half_pyramid_number.sh
-rw-rw-r-- 1 tirtha tirtha 189 Sep 16 16:37 half_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 187 Sep 16 16:37 inverted_half_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 433 Sep 16 16:37 leap_year.sh
-rw-rw-r-- 1 tirtha tirtha 275 Sep 16 16:37 login_user.sh
-rw-rw-r-- 1 tirtha tirtha 222 Sep 16 16:37 max_of_three.sh
-rw-rw-r-- 1 tirtha tirtha 259 Sep 16 16:37 palindrome.sh
-rw-rw-r-- 1 tirtha tirtha 250 Sep 16 16:37 pattern.sh
-rw-rw-r-- 1 tirtha tirtha 333 Sep 16 16:37 prime_range.sh
```

question 2

find \$DIR -mtime -14 -type f

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ find $DIR -mtime -14 -type f
./full_pyramid_number.sh
./pattern.sh
./good_morning.sh
./co_prime.sh
./sum_of_digit.sh
./salary.sh
./div11.sh
./calculator.sh
./inverted_half_pyramid.sh
./half_pyramid_number.sh
./find_vowel.sh
./login_user.sh
./welcome.sh
./even_odd.sh
```

question 3

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ ls -l | grep "Sep"
-rw-rw-r-- 1 tirtha tirtha 369 Sep 16 16:37 calculator.sh
-rw-rw-r-- 1 tirtha tirtha 257 Sep 16 16:37 combitation.sh
-rw-rw-r-- 1 tirtha tirtha 338 Sep 16 16:37 co_prime.sh
-rw-rw-r-- 1 tirtha tirtha 155 Sep 16 16:37 div11.sh
-rw-rw-r-- 1 tirtha tirtha 128 Sep 16 16:37 even_odd.sh
-rw-rw-r-- 1 tirtha tirtha 126 Sep 16 16:37 factorial.sh
-rw-rw-r-- 1 tirtha tirtha 308 Sep 16 16:37 file_check.sh
-rw-rw-r-- 1 tirtha tirtha 203 Sep 16 16:37 find_vowel.sh
-rw-rw-r-- 1 tirtha tirtha 268 Sep 16 16:37 full_pyramid_number.sh
-rw-rw-r-- 1 tirtha tirtha 254 Sep 16 16:37 full_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 280 Sep 16 16:37 good_morning.sh
-rw-rw-r-- 1 tirtha tirtha 190 Sep 16 16:37 half_pyramid_number.sh
-rw-rw-r-- 1 tirtha tirtha 189 Sep 16 16:37 half_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 187 Sep 16 16:37 inverted_half_pyramid.sh
-rw-rw-r-- 1 tirtha tirtha 433 Sep 16 16:37 leap_yer.sh
-rw-rw-r-- 1 tirtha tirtha 275 Sep 16 16:37 login_user.sh
-rw-rw-r-- 1 tirtha tirtha 222 Sep 16 16:37 max_of_three.sh
-rw-rw-r-- 1 tirtha tirtha 259 Sep 16 16:37 palindrome.sh
-rw-rw-r-- 1 tirtha tirtha 250 Sep 16 16:37 pattern.sh
-rw-rw-r-- 1 tirtha tirtha 333 Sep 16 16:37 prime_range.sh
```

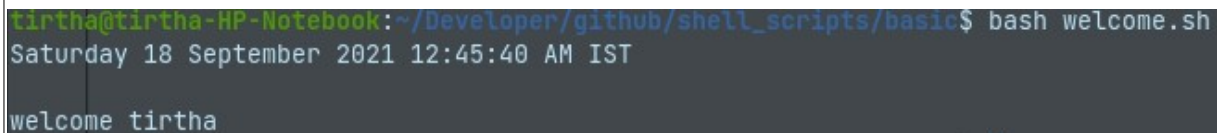
question 4

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ tail -20 ~/.bash_history
code .
shutdown
shutdown -c
shutdown --help
poweroff
clear
systeminfo
neofetch
screenfetch
sudo apt install neofetch
neofetch
screenfetch
disk
diskd
systeminfo
sudo apt remove screenfetch
gedit .bashrc
clear
poweroff --help
poweroff
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$
```

Home assignment:

question 1:

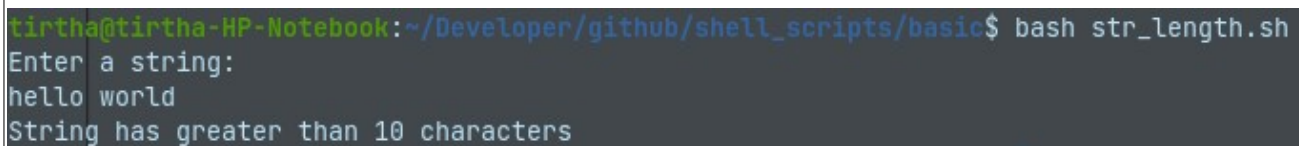
```
#!/bin/bash
date
var=$date
echo "$var"
echo -n "welcome "
whoami
```

A terminal window showing the execution of a script. The prompt is 'tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic\$'. The command 'bash welcome.sh' is entered. The output is 'Saturday 18 September 2021 12:45:40 AM IST' followed by 'welcome tirtha' on the next line.

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ bash welcome.sh
Saturday 18 September 2021 12:45:40 AM IST
welcome tirtha
```

question 2:

```
#!/bin/bash
echo "Enter a string:"
read str
size=`expr length "$str"`
if [ $size -lt 10 ]
then
    echo "String has less than 10 characters"
else
    echo "String has greater than 10 characters"
fi
```

A terminal window showing the execution of a script. The prompt is 'tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic\$'. The command 'bash str_length.sh' is entered. The output is 'Enter a string:' followed by 'hello world' on the next line, and 'String has greater than 10 characters' on the third line.

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ bash str_length.sh
Enter a string:
hello world
String has greater than 10 characters
```

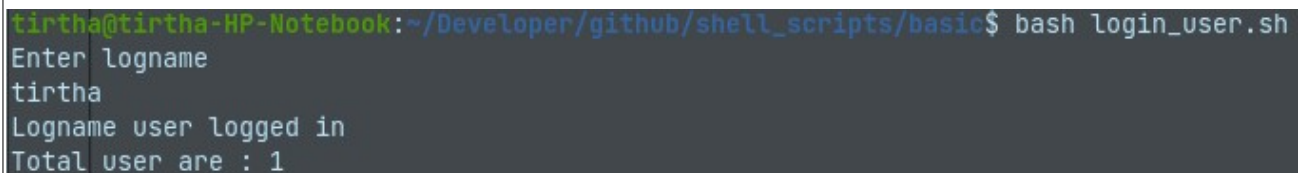
question 3:

```
#!/bin/bash
uid=$1

if [ $# -eq 0 ]
then
    echo "Enter logname"
    read uid
fi

ch=`who | grep $uid -c`
if [ $ch -eq 1 ]
then
    echo "Logname user logged in"
else
    echo "Logname user current not logging"
fi

echo "Total user are : `ls /home | wc -l`"
```



```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ bash login_user.sh
Enter logname
tirtha
Logname user logged in
Total user are : 1
```

question 4:

```
#!/bin/bash

# get current hour (24 clock format i.e. 0-23)
hour=$(date +"%H")

if [ $hour -ge 0 -a $hour -lt 12 ]
then
```

```
greet="Good Morning, $USER"
```

```
elif [ $hour -ge 12 -a $hour -lt 18 ]
```

```
then
```

```
greet="Good Afternoon, $USER"
```

```
else
```

```
greet="Good evening, $USER"
```

```
fi
```

```
echo $greet
```

```
tirtha@tirtha-HP-Notebook:~/Developer/github/shell_scripts/basic$ bash good_morning.sh  
Good Morning, tirtha
```

OS LAB

week 9

Name – Tirtharaj Sinha
Stream- CSE
Section – 3i
Roll no. 74
Enrollment no- 12019009001134
Date - 21/09/21

Lab Assignment:

question 1:

```
#!/bin/bash
echo -n "enter filename/path : "
read f
[ -s $f ] && echo "file has something" || echo "file is empty"
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash size_chec
k.sh
enter filename/path : diff.txt
file is empty
```

question 2:

```
#!/bin/bash
sum=0
for var in *
do
if [ -f $var ]
then
ls $var
set -- ls -l $var
sum=$((sum+$5))
fi
done
echo "Sum of non directory files is $sum"
```



```

full_pyramid_number.sh
full_pyramid.sh
full.txt
good_morning.sh
half_pyramid_number.sh
half_pyramid.sh
inverted_half_pyramid.sh
leap_yer.sh
login_user.sh
max_of_three.sh
palindrome.sh
pattern.sh
prime_range.sh
prime.sh
reverse_num.sh
salary.sh
size_check.sh
str_length.sh
sum_of_digit.sh
sum_of_filesize.sh
user_list.sh
welcome.sh
Sum of non directory files is 6478 Bytes

```

Question 3:

ls [aeiouAEIOU]*

```

tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ ls [aeiouAEIOU]*
even_odd.sh  inverted_half_pyramid.sh  user_list.sh

```

Question 4:

```
#!/bin/bash
```

```

echo -n "enter first filename : "
read f1
echo -n "enter second filename : "
read f2

```

```

CURRENT=$(diff -q $f1 $f2)
if [ ${#CURRENT} -eq 0 ]
then
rm $f2
fi
echo "$CURRENT"

```

```

tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ touch file1
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ touch file2
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash file_diff.sh
enter first filename : file1
enter second filename : file2

```

```

tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash file_diff.sh
enter first filename : full.txt
enter second filename : diff.txt
Files full.txt and diff.txt differ

```

Home Assignment:

question 1:

```
#!/bin/bash
echo "$1"

if [ -f $1 ]
then
echo "word count : $(wc -w $1)"
echo "line count : $(wc -l $1)"
echo "character count : $(wc -m $1)"
else
echo "not a regular file."
fi
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash if_regular_file.sh full.txt
full.txt
word count : 5 full.txt
line count : 1 full.txt
character count : 25 full.txt
```

question 2:

```
#!/bin/bash
```

```
echo -n "enter directory name (other than current): "
read dir
```

```
CURRENT=$(ls -a | wc -l)
OTHER=$(ls -a $dir | wc -l)
echo "current=$CURRENT , other=$OTHER"
if [ $CURRENT -gt $OTHER ]
then
echo "current dir has $((CURRENT-OTHER)) files more than $dir"
elif [ $CURRENT -lt $OTHER ]
then
echo "$dir has $((OTHER-CURRENT)) files more than current dir."
fi
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash dir_file_count.sh
enter directory name (other than current): /home/tirtha/Downloads
current=37 , other=8
current dir has 29 files more than /home/tirtha/Downloads
```

Question 3:

```
#!/bin/bash
for i in $(ls -AS);
do
size=$(wc -c <"$i")
if [ $size -gt 100 ]
then
echo "$i ----> size = $size";
fi
done;
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash file_size_filter.sh
leap_yer.sh ----> size = 433
dir_file_count.sh ----> size = 379
calculator.sh ----> size = 369
co_prime.sh ----> size = 338
prime_range.sh ----> size = 333
file_check.sh ----> size = 308
salary.sh ----> size = 292
login_user.sh ----> size = 281
good_morning.sh ----> size = 280
full_pyramid_number.sh ----> size = 268
palindrome.sh ----> size = 259
combination.sh ----> size = 257
full_pyramid.sh ----> size = 254
pattern.sh ----> size = 250
max_of_three.sh ----> size = 222
find_vowel.sh ----> size = 203
str_length.sh ----> size = 196
prime.sh ----> size = 195
file_diff.sh ----> size = 191
half_pyramid_number.sh ----> size = 190
```

Question 4:

```
#!/bin/bash
echo -n "enter first filename : "
read f1
echo -n "enter second filename : "
read f2
echo -n "enter destination filename : "
read new

cat $f1 $f2 > $new

if [ -f $new ]
then
echo "word count : $(wc -w $new)"
echo "line count : $(wc -l $new)"
echo "character count : $(wc -m $new)"
fi
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash merge_files.sh
enter first filename : diff.txt
enter second filename : full.txt
enter destination filename : merged.txt
word count : 5 merged.txt
line count : 1 merged.txt
character count : 25 merged.txt
```

question 5:

```
#!/bin/bash

echo -n "enter first directory name : "
read dir1
echo -n "enter second directory name : "
read dir2

if [ $dir1 == $dir2 ]
then
echo "same directory name."
exit 1
fi
if [ ! -d $dir1 ] || [ ! -d $dir2 ]
then
echo "invalid directory name."
exit 2
fi
for file in $dir1/*
do
filename="$(basename $file)"
if [ -f $dir2/$filename ]
then
rm $dir2/$filename
echo "removed $dir2/$filename"
fi
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash compare_dir.sh 2/3/mca1 2/3/mca2
enter first directory name : mca1
enter second directory name : mca2
removed mca2/file3
```

OS LAB

week 10

Name – Tirtharaj Sinha
Stream- CSE
Section – 3i
Roll no. 74
Enrollment no- 12019009001134
Date - 28/09/21

Lab Assignment:

question 1:

Write a shell script which will receive either the filename or the filename with its full path during execution. This script should print information about the file as given by ls -l command and display it in an informative manner.

```
#!/bin/bash
```

```
echo $1
```

```
CONTENT=$(grep -vi unix $1)
```

```
# echo "$CONTENT"
```

```
echo "$CONTENT" > $1
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ cat full.txt
hello world
throw bomb on uem
unix
unix linux
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash line_del_from_file.sh full.txt
full.txt
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ cat full.txt
hello world
throw bomb on uem
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$
```

question 2:

```
#!/bin/bash
echo $1
string=$(ls -l $1)
# Setting IFS (input field separator) value as ","
IFS=' '
# Reading the split string into array
read -ra arr <<< "$string"
echo "premission : ${arr[0]}"
echo "links : ${arr[1]}"
echo "username : ${arr[2]}"
echo "groupname : ${arr[3]}"
echo "file size : ${arr[4]} B"
echo "date modified : ${arr[5]} ${arr[6]} on ${arr[7]}"
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash file_stat.sh full.txt
full.txt
premission : -rw-rw-r--
links : 1
username : tirtha
groupname : tirtha
file size : 30 B
date modified : Sep 28 on 16:27
```

Question 3:

```
echo -n "Enter user name : "
```

```
read lname
```

```
grep $lname /etc/passwd | cut -d":" -f 1-7
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash user_log.sh
```

```
Enter user name : tirtha
```

```
tirtha:x:1000:1000:tirtha,,,:/home/tirtha:/bin/bash $lname /etc/passwd | cut -d":" -f 1-7
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$
```

Question 4:

```
#!/bin/bash
```

```
echo -n "enter file name : "
```

```
read f
```

```
cat $f | tr ' ' '\n' | sort | uniq -c
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash word_freq.sh
```

```
enter file name : full.txt
```

```
1 a
```

```
1 bomb
```

```
1 collage.
```

```
1 hello
```

```
1 is
```

```
1 on
```

```
1 throw
```

```
2 uem
```

```
1 world
```

```
1 worst
```

Home Assignment:

question 1:

```
cat /etc/passwd
```

question 2:

```
#!/bin/bash

echo "number of interval : $1"

for (( i=1 ; i<=$1 ; i++ ))

do

    echo -n "number of current logged in usr : "

    ls /home | wc -l

    sleep 1

done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash usr_log_interval.sh 3
number of interval : 3
number of current logged in usr :1
number of current logged in usr :1
number of current logged in usr :1
```

Question 3:

```
#!/bin/bash
echo -n "enter file name : "
read f
cat $f | tr ' ' '\n' | sort | uniq -c
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash word_freq.sh
enter file name : full.txt
 1 a
 1 bomb
 1 collage
 1 hello
 1 is
 1 on
 1 throw
 2 uem
 1 world
 1 worst
```


QUESTION 4

```
CheckNo=`expr $# % 2`  
echo "number of file got : $#"  
if [ $CheckNo -ne 0 ]  
then  
    echo "Enter Even Number Of Arguments."  
    exit 1  
fi  
cnt=1  
while [ $cnt -lt $# ]  
do  
  
    var=$(cat $1 $2)  
    echo "$var" > "$2"  
    shift  
    shift  
done
```

```
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ bash file_copy.sh a b c d  
number of file got : 4  
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ cat b  
file1  
file1  
tirtha@tirtha-HP-Notebook:~/developer/github/shell_scripts/basic$ cat d  
file3  
file3
```