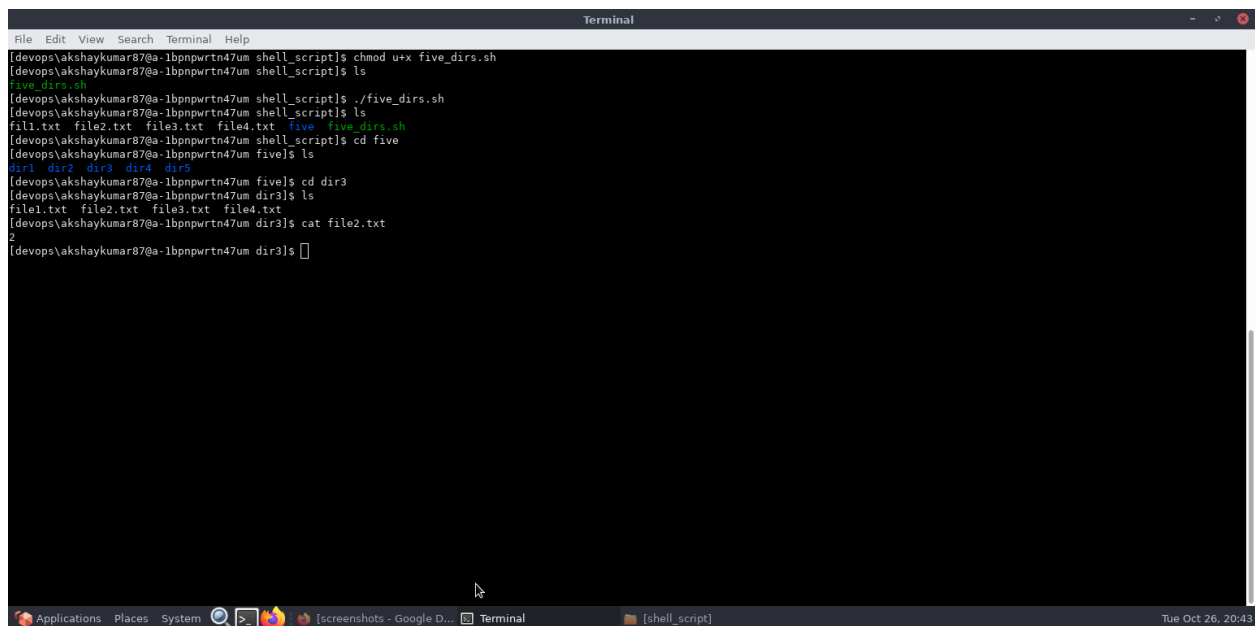


1. Write a script five_dirs.sh that does these tasks:
 - a. make a directory five.
 - b. make five subdirectories five/dir1 through five/dir5.
 - c. in each subdirectory, make four files, file1 through file4, such that file1 has one line containing the digit 1, file2 has two lines, each containing the digit 2, ..., and file4 has four lines, each containing the digit 4

Answer:

For this made a .sh file and inside it given the command to form such required directory and sub-directory. Showing the same in the terminal and also showing the final output..

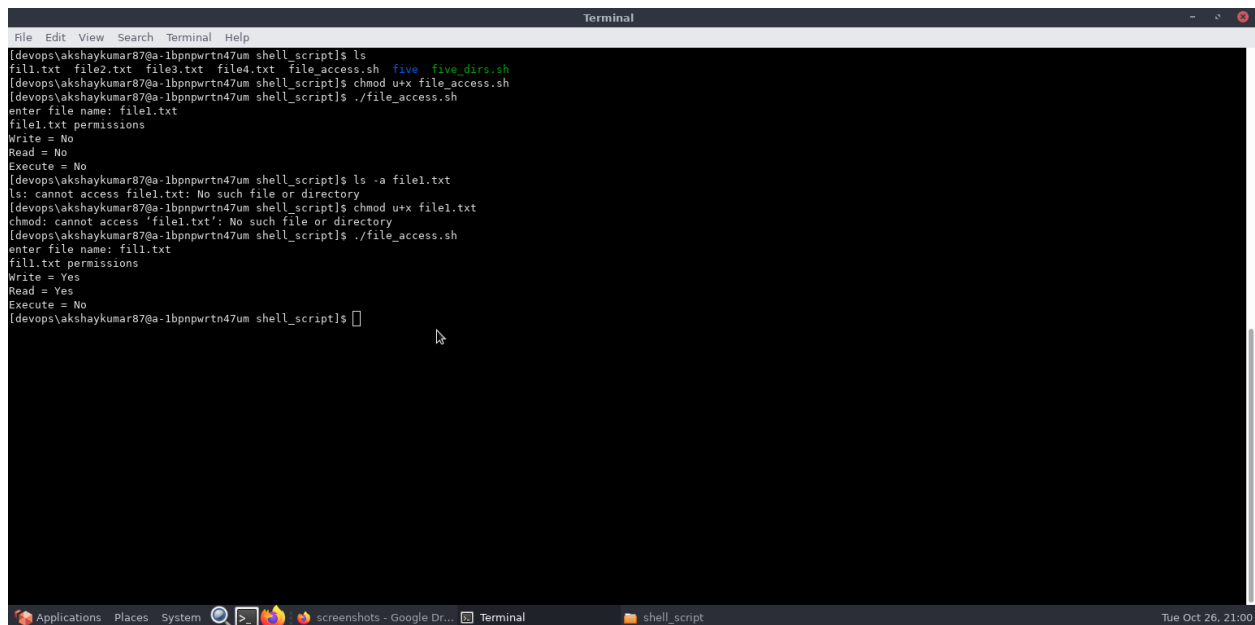


```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ chmod u+x five_dirs.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ls
five_dirs.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./five_dirs.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ls
fill.txt file2.txt file3.txt file4.txt five five_dirs.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ cd five
[devops\akshaykumar87@a-1bpnpwrtn47um five]$ ls
dir1 dir2 dir3 dir4 dir5
[devops\akshaykumar87@a-1bpnpwrtn47um five]$ cd dir3
[devops\akshaykumar87@a-1bpnpwrtn47um dir3]$ ls
file1.txt file2.txt file3.txt file4.txt
[devops\akshaykumar87@a-1bpnpwrtn47um dir3]$ cat file2.txt
2
[devops\akshaykumar87@a-1bpnpwrtn47um dir3]$
```

2. Get user input of file path and evaluate the status of a file (Whether it is writable, executable/searchable, readable, directory etc)

Answer:

In support of this made a file_access.sh file. Showing the same and output in the screenshot.

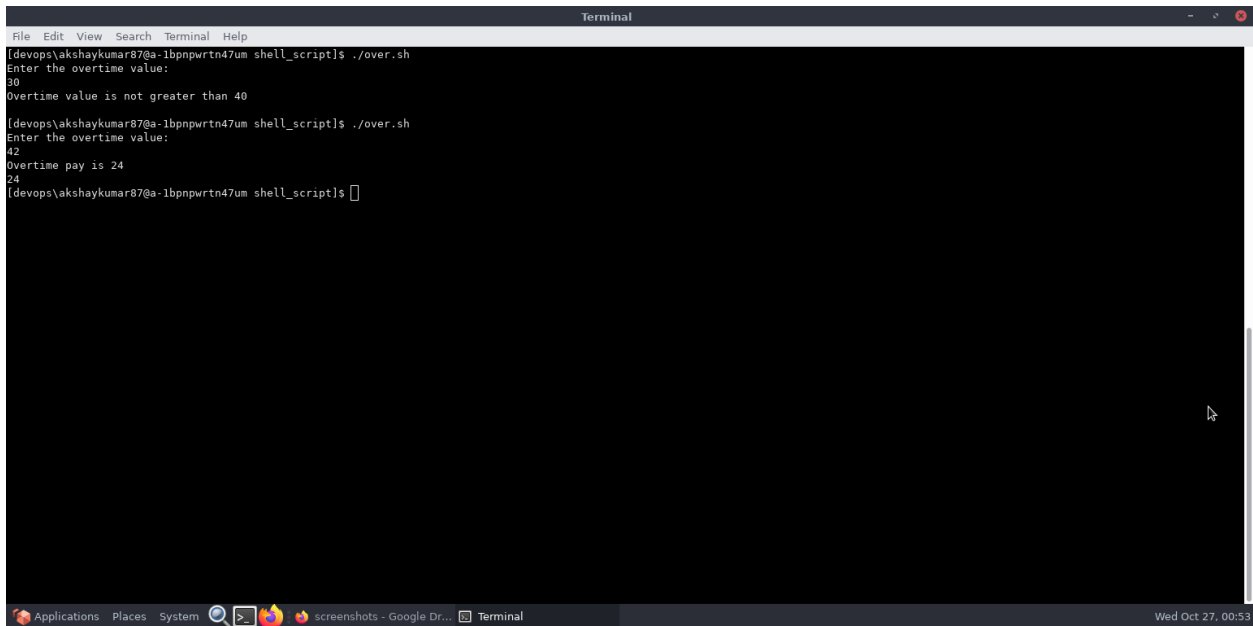


```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ ls
file1.txt file2.txt file3.txt file4.txt file_access.sh five five_dirs.sh
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ chmod u+x file_access.sh
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ ./file_access.sh
enter file name: file1.txt
file1.txt permissions
Write = No
Read = No
Execute = No
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ ls -a file1.txt
ls: cannot access file1.txt: No such file or directory
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ chmod u+x file1.txt
chmod: cannot access 'file1.txt': No such file or directory
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$ ./file_access.sh
enter file name: file1.txt
file1.txt permissions
Write = Yes
Read = Yes
Execute = No
[devops\akshaykumar87@a-ibpnprtnd47um shell_script]$
```

- Write a program to calculate overtime pay of employees. Overtime is paid at the rate of Rs. 12.00 per hour for every hour worked above 40 hours. Assume that employees do not work for fractional part of an hour.

Answer:

Made a .sh file and inside this done some arithmetic operation.

A screenshot of a Linux terminal window titled "Terminal". The terminal shows the execution of a shell script named "over.sh". The prompt is "[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]\$". The user enters the command "over.sh". The script prompts "Enter the overtime value:" and the user enters "30". The script outputs "Overtime value is not greater than 40". The user enters the command "over.sh" again. The script prompts "Enter the overtime value:" and the user enters "42". The script outputs "Overtime pay is 24". The user enters the command "over.sh" a third time. The script prompts "Enter the overtime value:" and the user enters "24". The script outputs "Overtime pay is 24". The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The bottom of the terminal window shows a taskbar with icons for "Applications", "Places", "System", "Terminal", and "screenshots - Google Dr...". The date and time "Wed Oct 27, 00:53" are displayed in the bottom right corner.

```
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./over.sh
Enter the overtime value:
30
Overtime value is not greater than 40

[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./over.sh
Enter the overtime value:
42
Overtime pay is 24

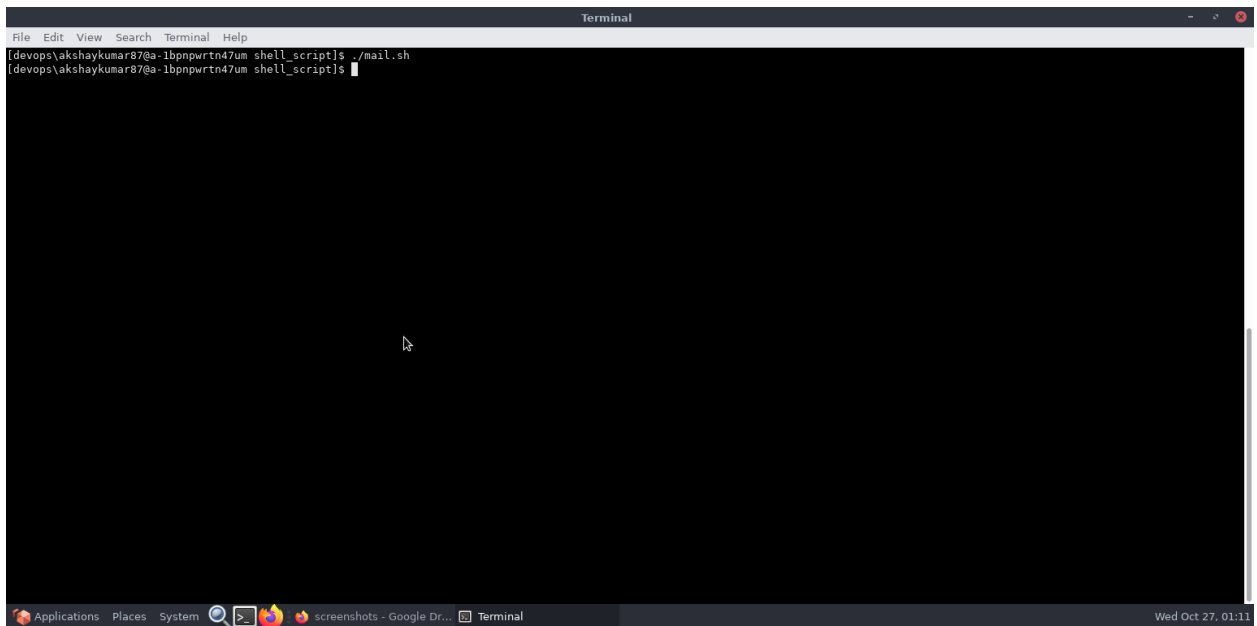
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$
```

Figure showing the calculated value of overtime.

4. Write a script that every time, I reboot there should be an email sent to Admin that takes dump of last 100 message of dmesg in zipped form.

Answer:

In the screenshot we can see that `./mail.sh` file is running fine. Inside this the `runlevel` value is given 6 as it is for reboot.

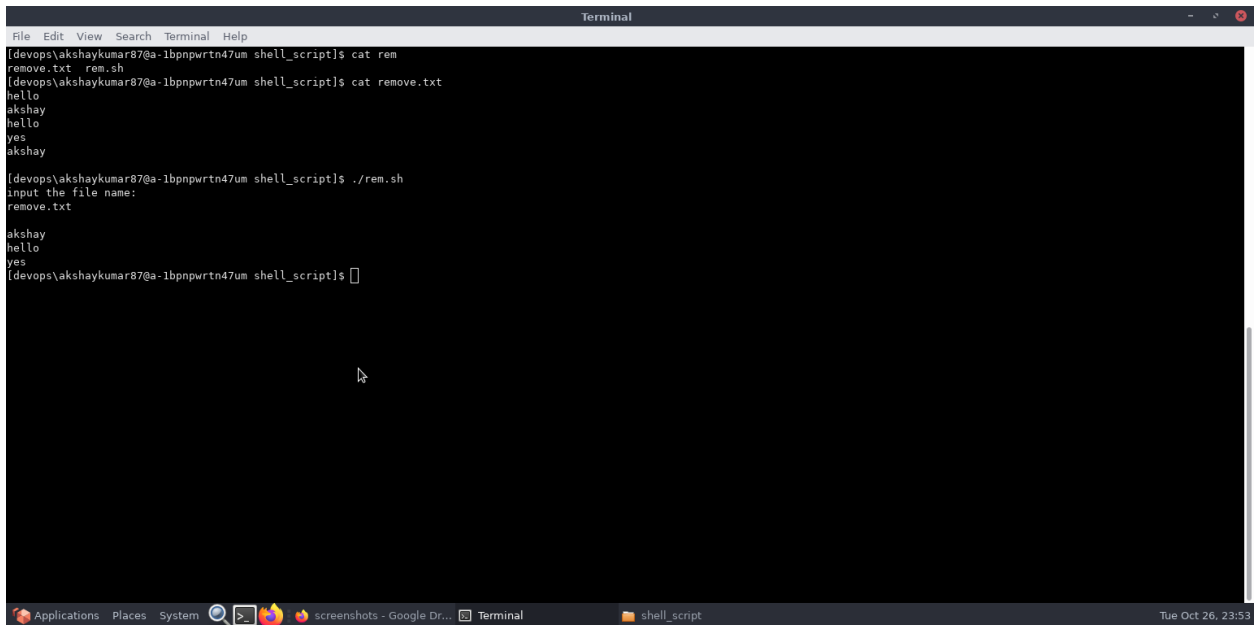
A screenshot of a Linux terminal window titled "Terminal". The terminal shows the prompt `[devops\akshaykumar87@a-1bnpwrtn47um shell_script]$` followed by the command `./mail.sh` being executed. The output of the script is not visible, suggesting it may have completed successfully or the output is too large to display. The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The bottom of the screen shows a desktop environment with a taskbar containing icons for "Applications", "Places", "System", and "Terminal". The system clock in the bottom right corner indicates "Wed Oct 27, 01:11".

```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bnpwrtn47um shell_script]$ ./mail.sh
[devops\akshaykumar87@a-1bnpwrtn47um shell_script]$
```

5. Write a shell script that will take an input file and remove identical lines (or duplicate lines from the file).

Answer:

For this I need to run uniq command with sort command . And this helped in the above result.



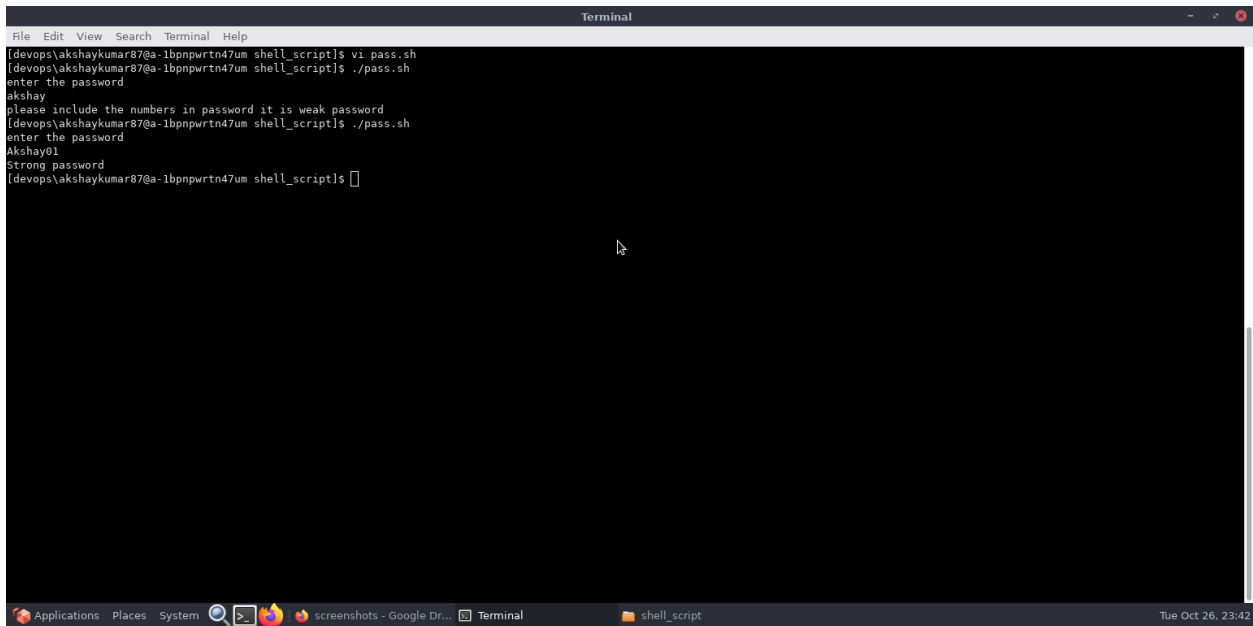
```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ cat rem
remove.txt  rem.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ cat remove.txt
hello
akshay
hello
yes
akshay
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./rem.sh
input the file name:
remove.txt
akshay
hello
yes
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$
```

The screenshot shows a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The user is in a directory named "shell_script". They first run "cat rem" which shows "remove.txt" and "rem.sh". Then they run "cat remove.txt" which displays the contents of the file: "hello", "akshay", "hello", "yes", and "akshay". Next, they run "./rem.sh", which prompts for "input the file name:" and they enter "remove.txt". The script then prints the same five lines of text. The terminal window has a dark background and a light-colored cursor. The bottom of the window shows a taskbar with icons for Applications, Places, System, and a search bar, along with the date and time "Tue Oct 26, 23:53".

6. Create a bash file to assess password strength.
 - a. Minimum Characters should be 6.
 - b. Should Contain both alphabet and number.
 - c. Should Include both the small and capital case letters.
 - d. If the password doesn't comply with any of the above conditions, then the script should report it as a <Weak Password>

Answer:

Showing the screenshot after running the pass.sh file where I have used the logic for this.



```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrt47um shell_script]$ vi pass.sh
[devops\akshaykumar87@a-1bpnpwrt47um shell_script]$ ./pass.sh
enter the password
akshay
please include the numbers in password it is weak password
[devops\akshaykumar87@a-1bpnpwrt47um shell_script]$ ./pass.sh
enter the password
Akshay01
Strong password
[devops\akshaykumar87@a-1bpnpwrt47um shell_script]$
```

The screenshot shows a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The user is in a directory named "shell_script" and has created a file named "pass.sh". They run the script with the command "cat pass.sh". The script prompts the user to "enter the password". The user enters "akshay". The script outputs "please include the numbers in password it is weak password". The user then runs the script again with "cat pass.sh". The script prompts the user to "enter the password". The user enters "Akshay01". The script outputs "Strong password". The terminal window is part of a desktop environment with a taskbar at the bottom showing icons for Applications, Places, System, and a search bar. The taskbar also shows the current date and time as "Tue Oct 26, 23:42".

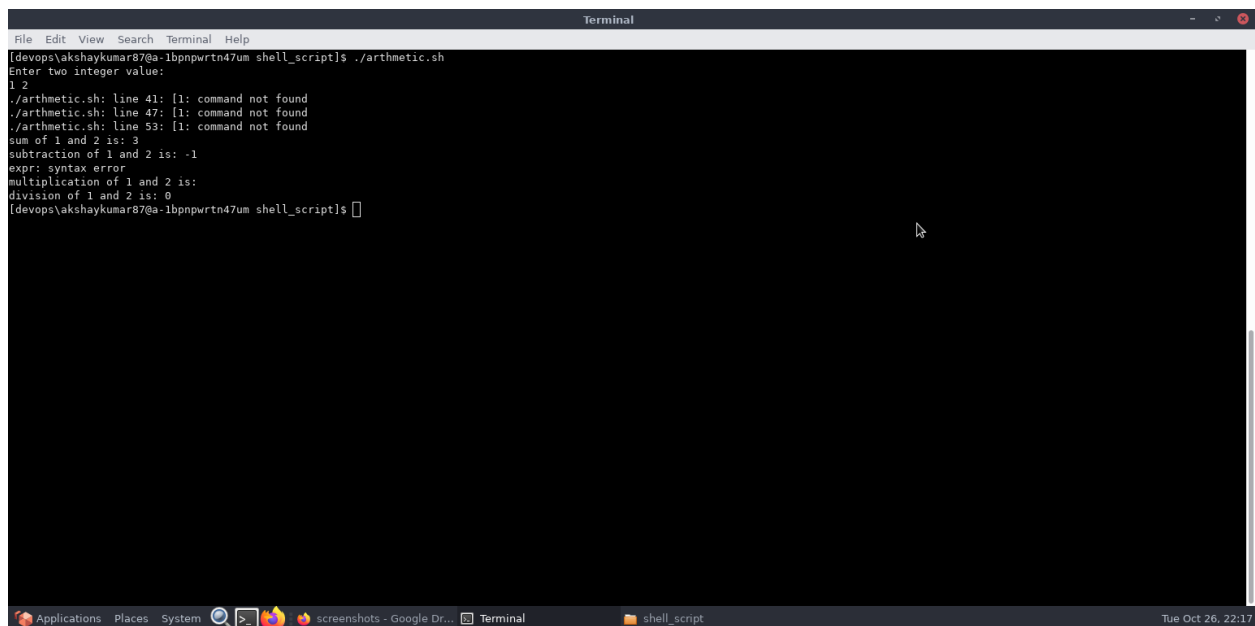
7. Write a shell script to accept two integer values for two variables Perform following actions -

Create the following functions for the same –

1. Addition
- b. Multiplication
- c. Division
- d. Subtraction
- e. If the input is invalid it should return the input is invalid with a comment

Answer:

Showing the above using screenshot where I have used my logic inside the arithmetic.sh file.



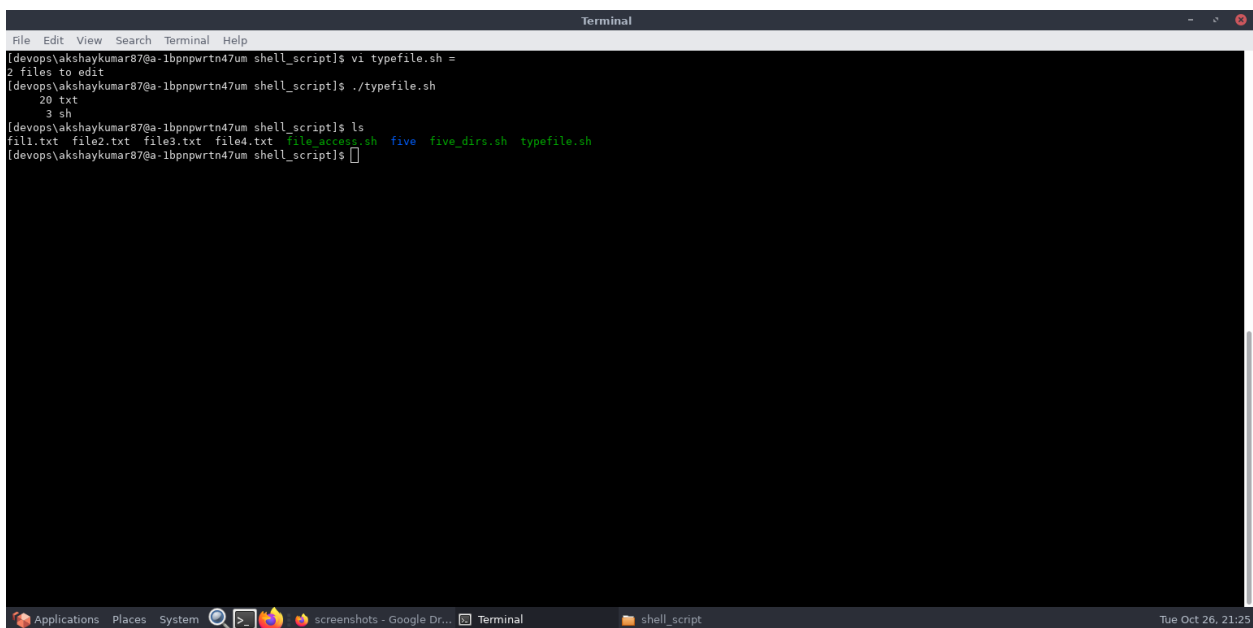
```
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./arithmetic.sh
Enter two integer value:
1 2
./arithmetic.sh: line 41: [: 1: command not found
./arithmetic.sh: line 47: [: 1: command not found
./arithmetic.sh: line 53: [: 1: command not found
sum of 1 and 2 is: 3
subtraction of 1 and 2 is: -1
expr: syntax error
multiplication of 1 and 2 is:
division of 1 and 2 is: 0
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$
```

8. Write a shell script that takes a directory as an input and counts the total number of different types of files and directories present in the input directory

Answer:

My typefile.sh has the logic of calculating the above result and solving the problem. We can refer to the mentioned .sh file.

Sharing the screenshot for the same:



```
Terminal
File Edit View Search Terminal Help
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ vi typefile.sh =
2 files to edit
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ./typefile.sh
    20 txt
     3 sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$ ls
fill.txt file2.txt file3.txt file4.txt file_access.sh five five_dirs.sh typefile.sh
[devops\akshaykumar87@a-1bpnpwrtn47um shell_script]$
```

THANK YOU!