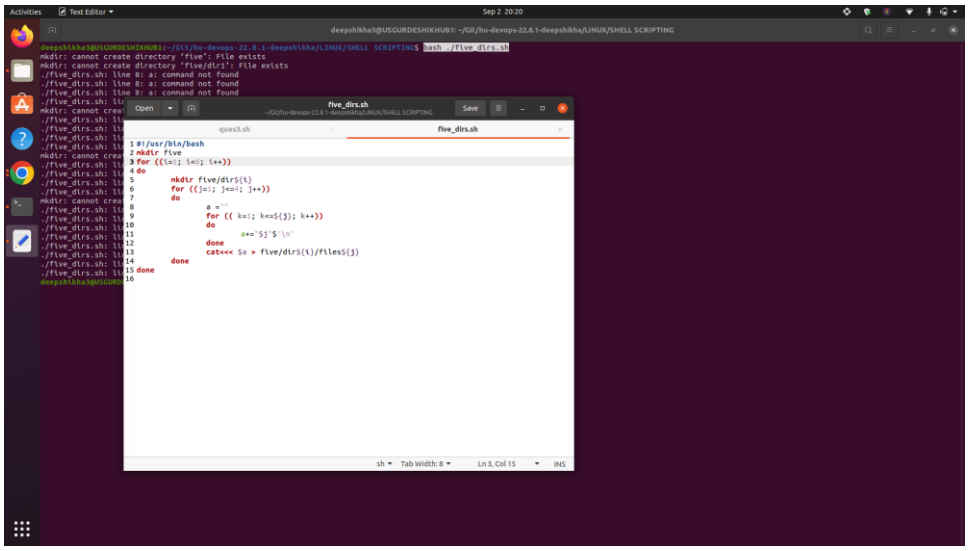
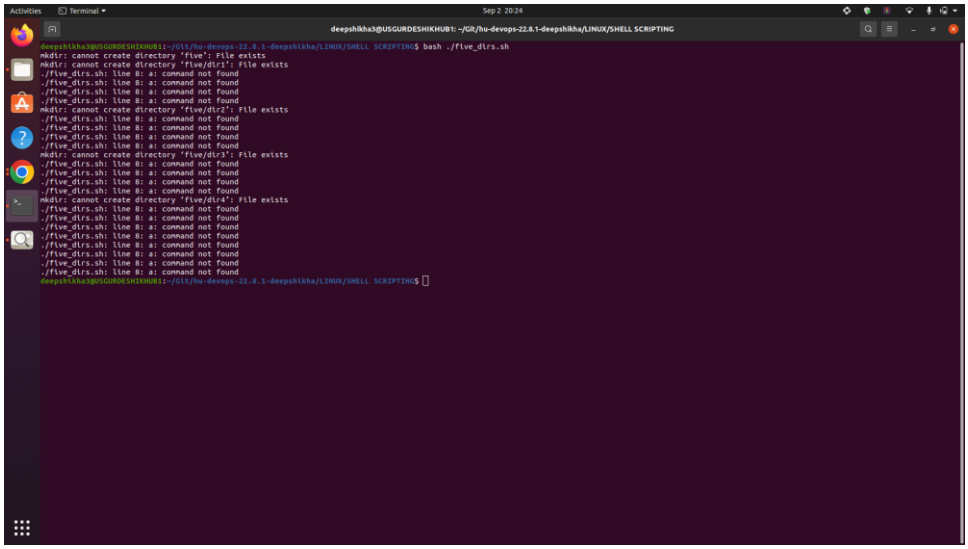
ASSIGNMENT 3.1

SHELL SCRIPTING

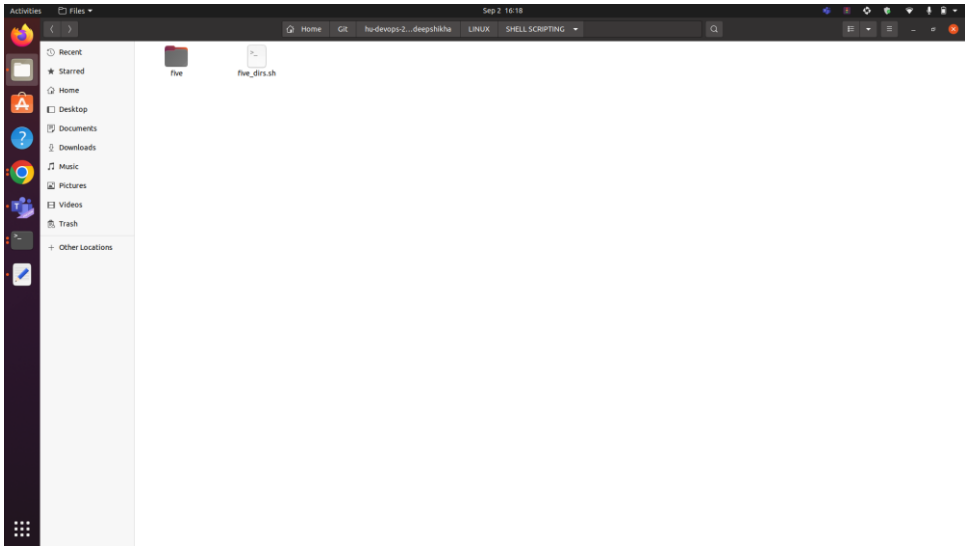
Ques 1. Write a script five_dirs.sh that does these tasks:
a. make a directory five.
b. make five subdirectories five/dir1 through five/dir5.
c. in each subdirectory, make four files, file1 through file4, such that file1 has one line containing the digit 1, file2 has two lines, each containing the digit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

Solution:

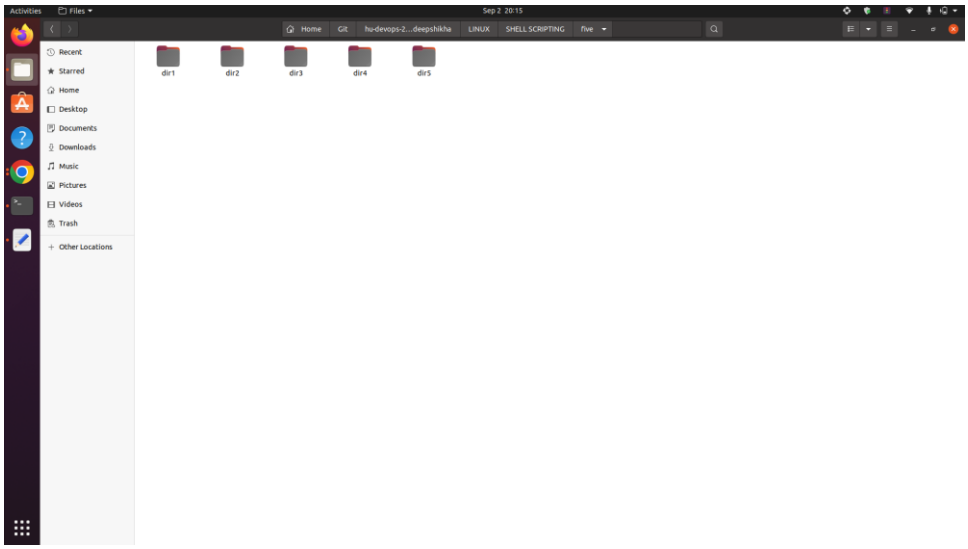



Activities
Terminal
Sep 2 20:24
deepshikha3@USGURDESHIKHUB1: ~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./five_dirs.sh
mkdir: cannot create directory 'five': File exists
mkdir: cannot create directory 'five/dir1': File exists
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
mkdir: cannot create directory 'five/dir2': File exists
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
mkdir: cannot create directory 'five/dir3': File exists
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
mkdir: cannot create directory 'five/dir4': File exists
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
./five_dirs.sh: line 8: a: command not found
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$

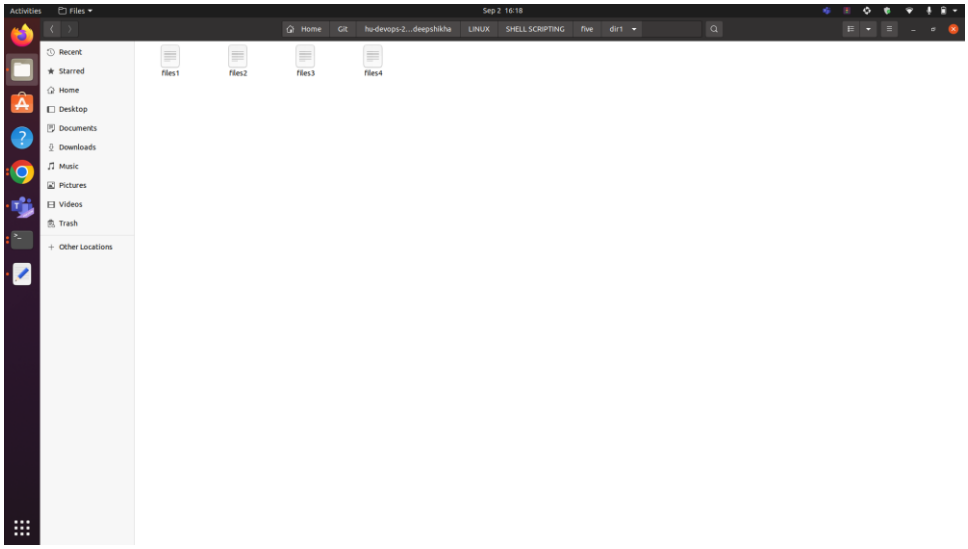
a)


Activities
Files
Sep 2 16:18
Home
Git
hu-devops-2...deepshikha
LINUX
SHELL SCRIPTING
Recent
Starred
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
five
five_dirs.sh

b)


Activities
Files
Sep 2 20:15
Home
Git
hu-devops-2...deepshikha
LINUX
SHELL SCRIPTING
five
Recent
Starred
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
dir1
dir2
dir3
dir4
dir5

c)



Steps:

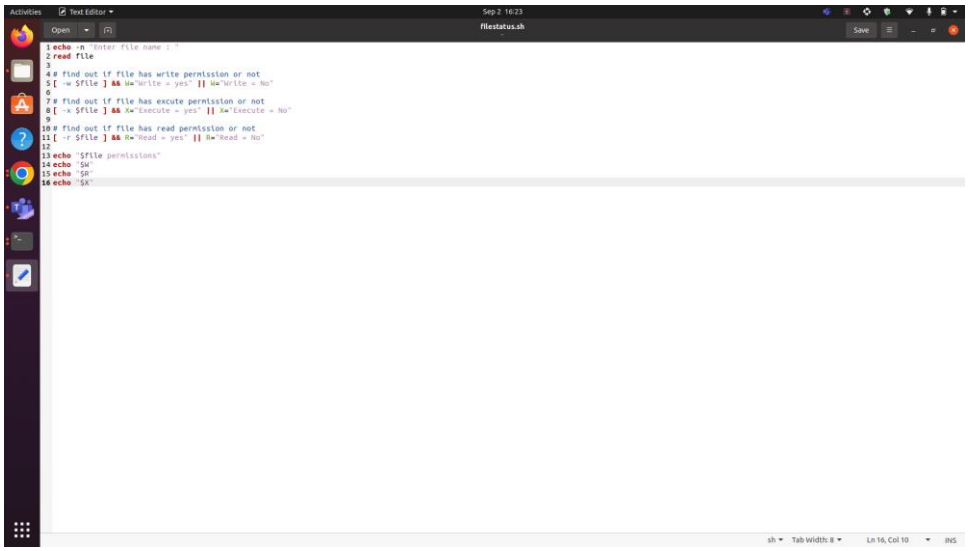
1. **I have written a script for the condition specified.**
2. **Save the file with .sh extension for shell.**
3. **Open the terminal write command to run the script.**
4. **Output is attached in the screenshot.**

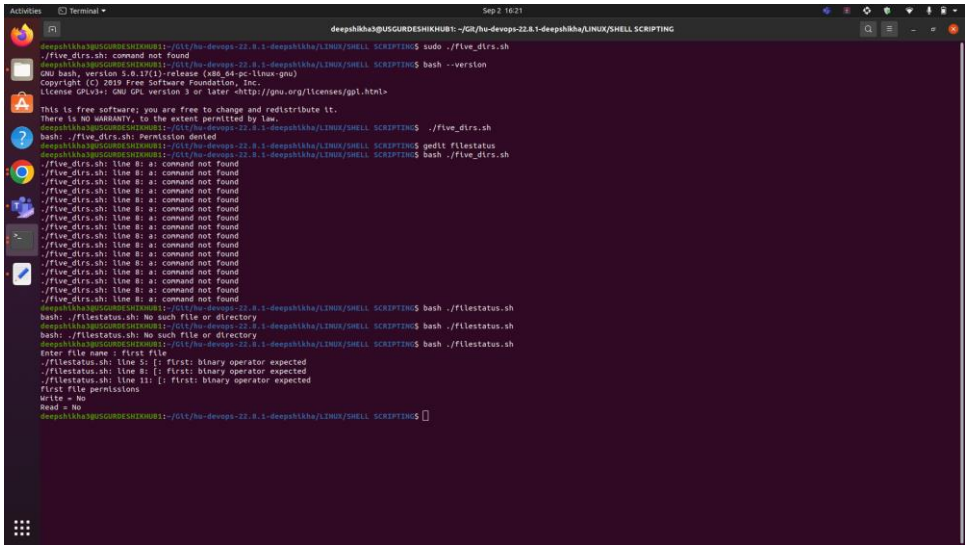
Command:

bash ./five_dirs.sh

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

Solution:





Steps:

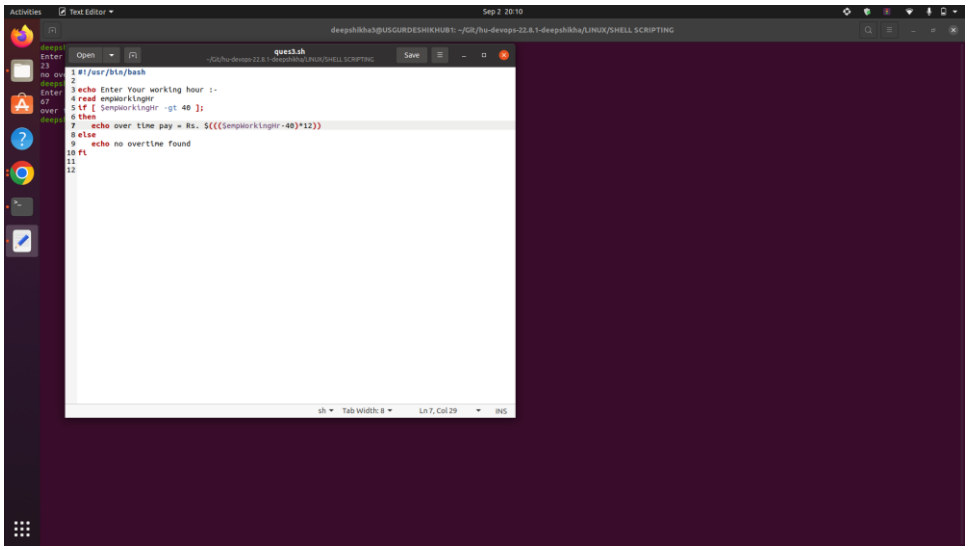
1. **Write script to evaluate the file status.**
2. **Save the file with .sh extension.**
3. **Open terminal and run command to execute the shell script file.**
4. **Output is attached in the screenshot.**

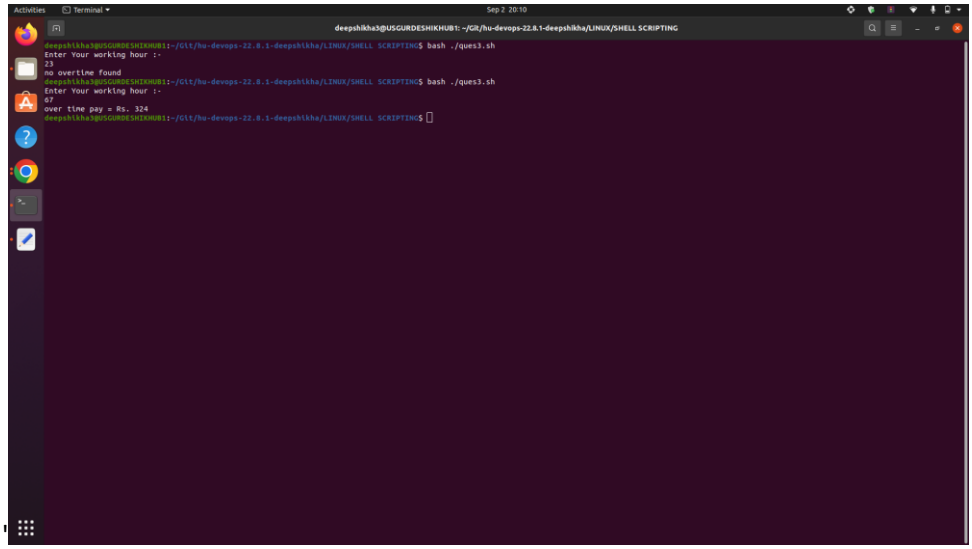
Command:

bash ./filestatus.sh

Ques 3. 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.

Solution:





Steps:

1. **I have written a script to calculate overtime pay of employees.**
2. **Save the file with .sh extension.**
3. **Open terminal and run command to execute the shell script file.**
4. **Output is attached in the screenshot.**

Command:

bash ./ques3.sh

Ques 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.

Solution:

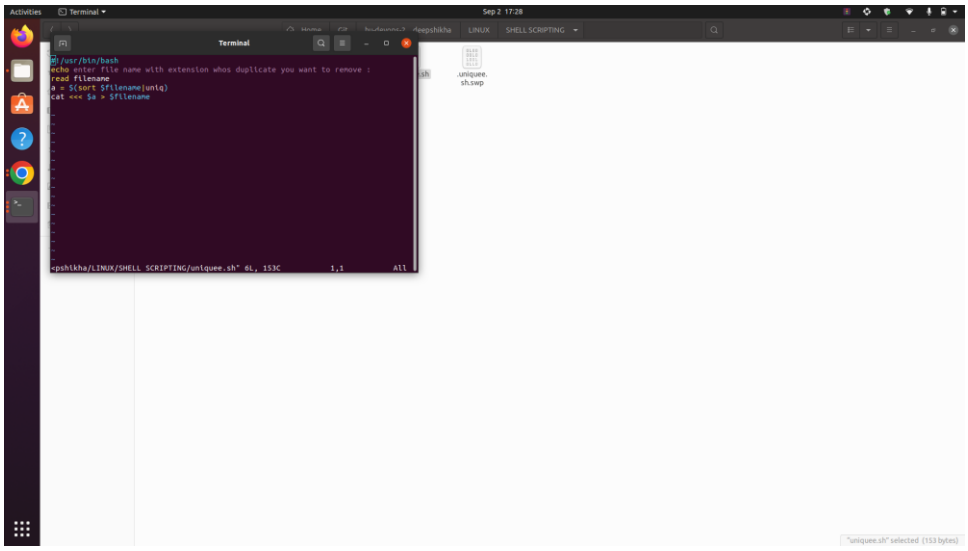
The dmesg command allows you to review the messages that are stored in the ring buffer. By default, you need to use sudo to use dmesg.

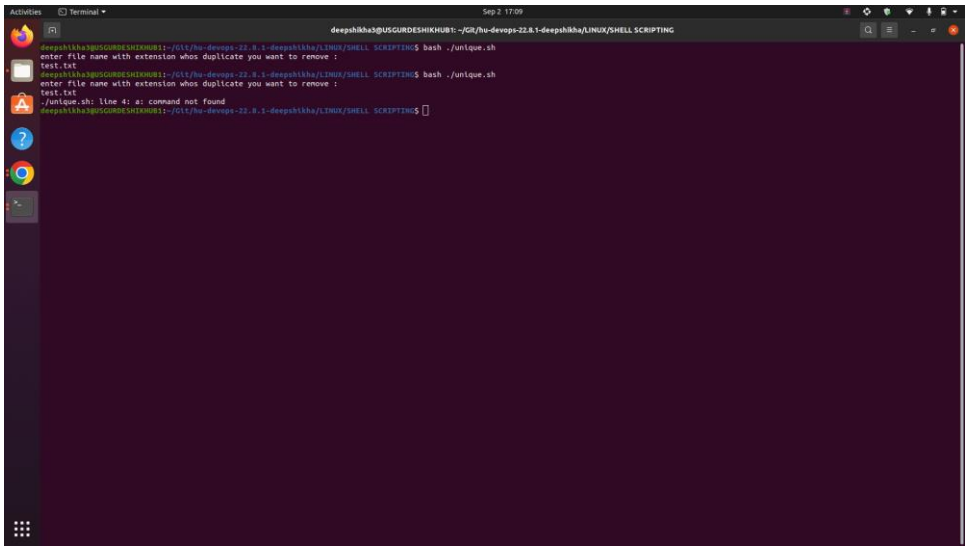
Commands:

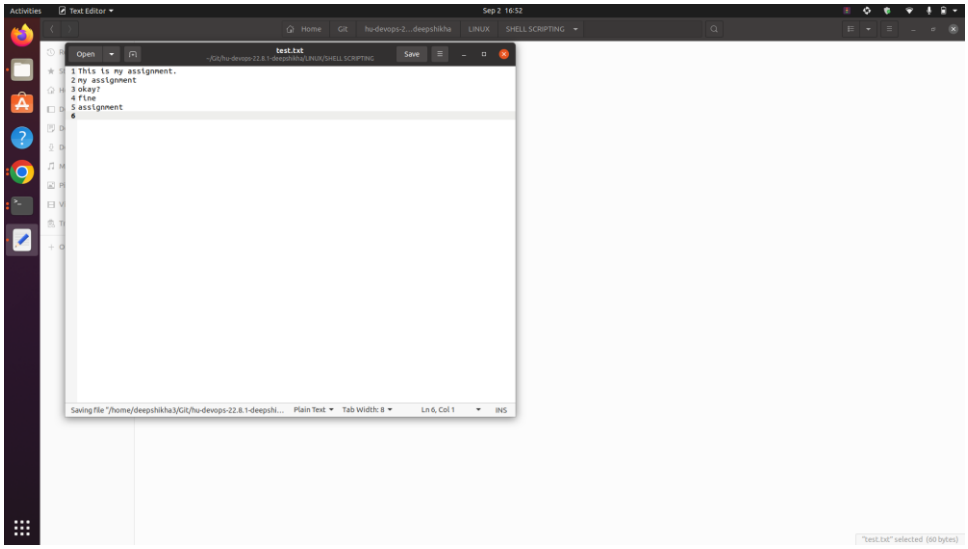
```
sudo dmesg
sudo dmesg | less
sudo dmesg | last -10
```

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

Solution:







Steps:

1. **I have written a script to remove duplicate items from the file.**
2. **Save the file with .sh extension.**
3. **Created a file to give input to check the duplication.**
4. **Open terminal and run command to execute the shell script file.**
5. **The output test file removes the duplicate line.**
6. **Output is attached in the screenshot.**

Command:

bash ./uniquee.sh

Ques 6. Create a bash file to assess password strength.

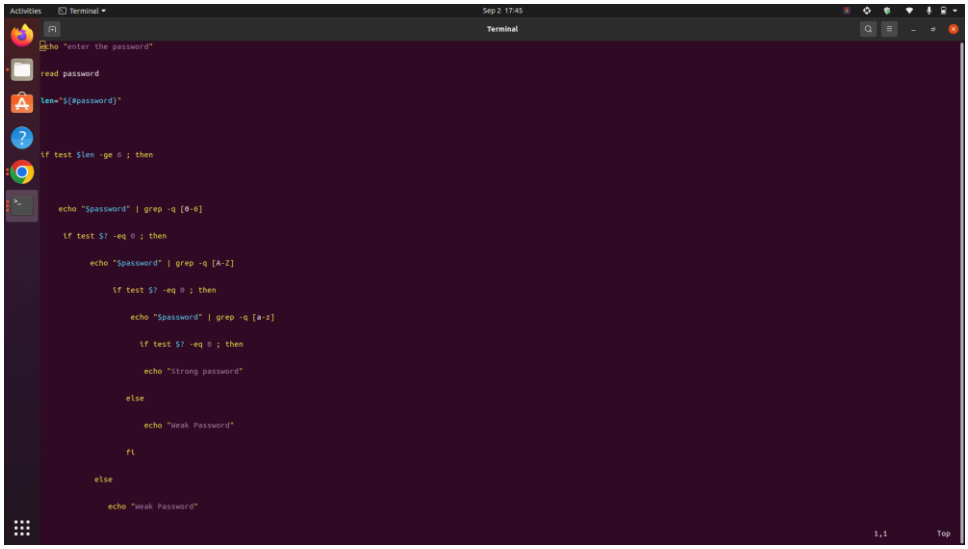
a. Minimum Characters should be 6.

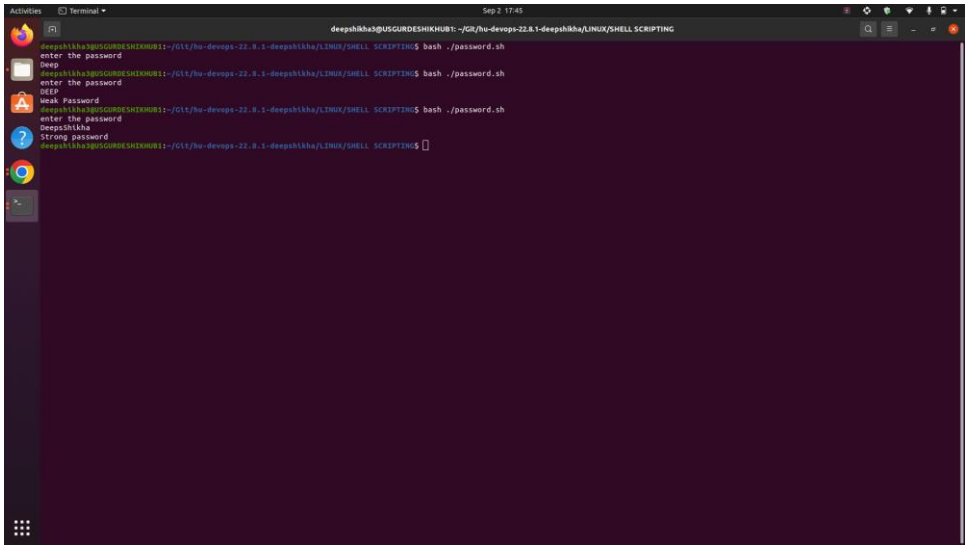
b. Should Contain both alphabet and number.

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>

Solution:





Steps:

1. **I have written a script to check the password strength with few conditions.**
2. **Saved the file with .sh extension.**
3. **Open terminal and run command to execute the shell script file.**
4. **The output will tell if the password is weak or strong.**
5. **Output is attached in the screenshot.**

Command:

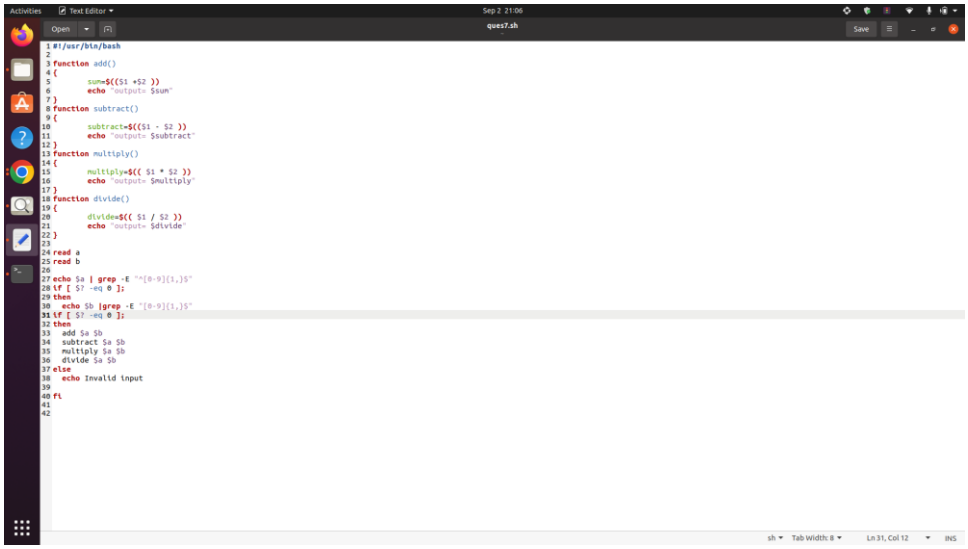
bash ./password.sh

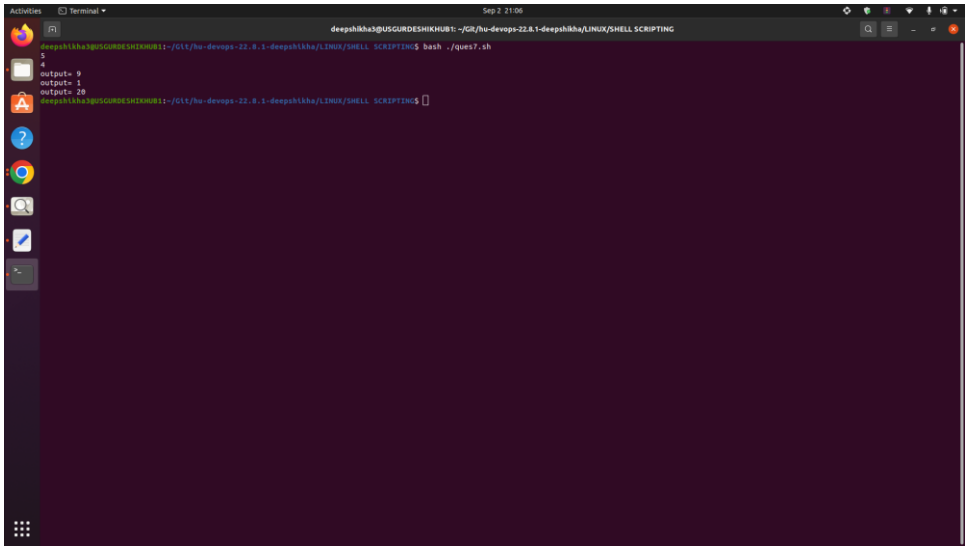
Ques 7. Write a shell script to accept two integer values for two variables
Perform following actions -
Create the following functions for the same -

Operation	Function
Addition	add(a,b)
Subtraction	subtract(a,b)
Division	divide(a,b)
Multiplication	multiply(a,b)

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

Solution:





Steps:

1. **I have written a script to accept two integers' values and perform functions but if input is invalid it will return comment.**
2. **Saved the file with .sh extension.**
3. **Open terminal and run command to execute the shell script file.**
4. **The output will perform the functions.**
5. **Output is attached in the screenshot.**

Command:

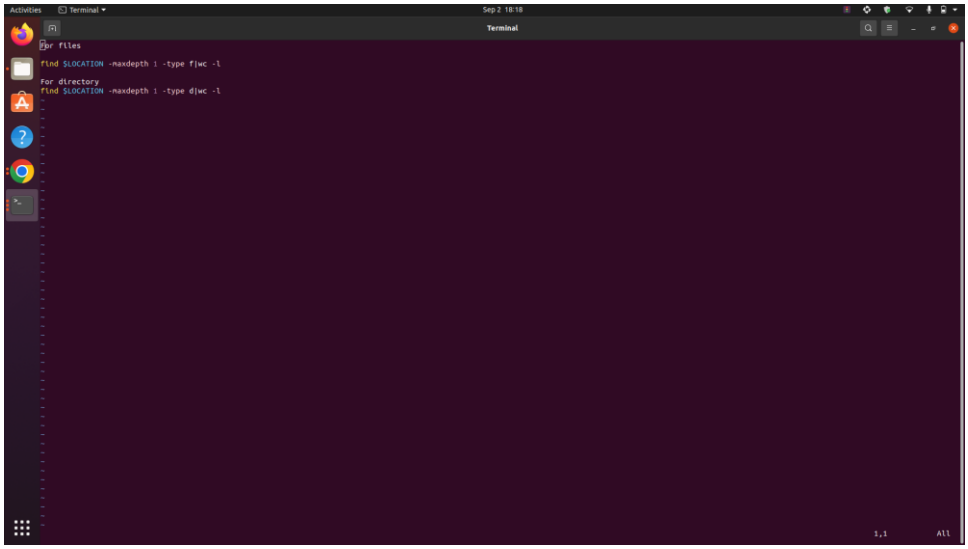
bash ./ques7.sh

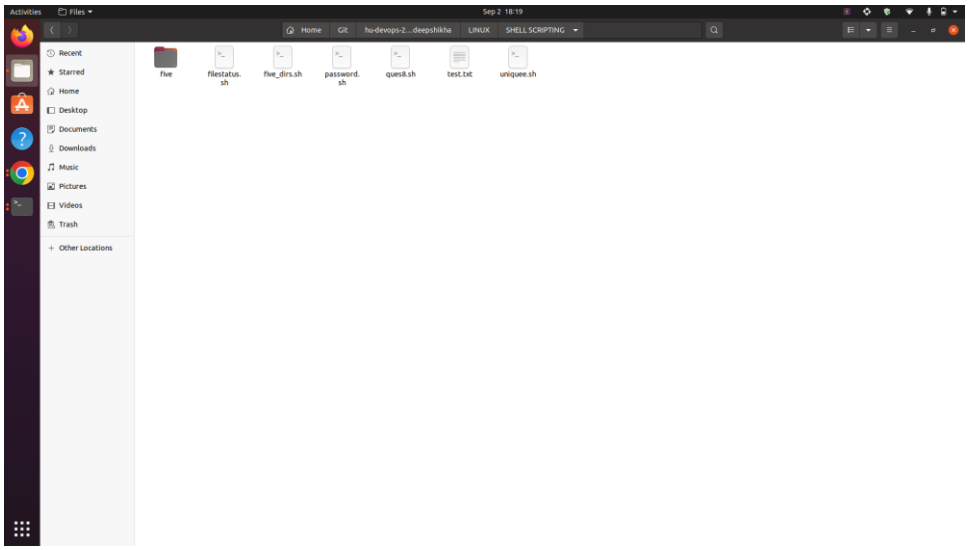
Ques 8. Write a shell script that takes a directory as an input and counts the total number of different types of files and directories present in the input directory
example -

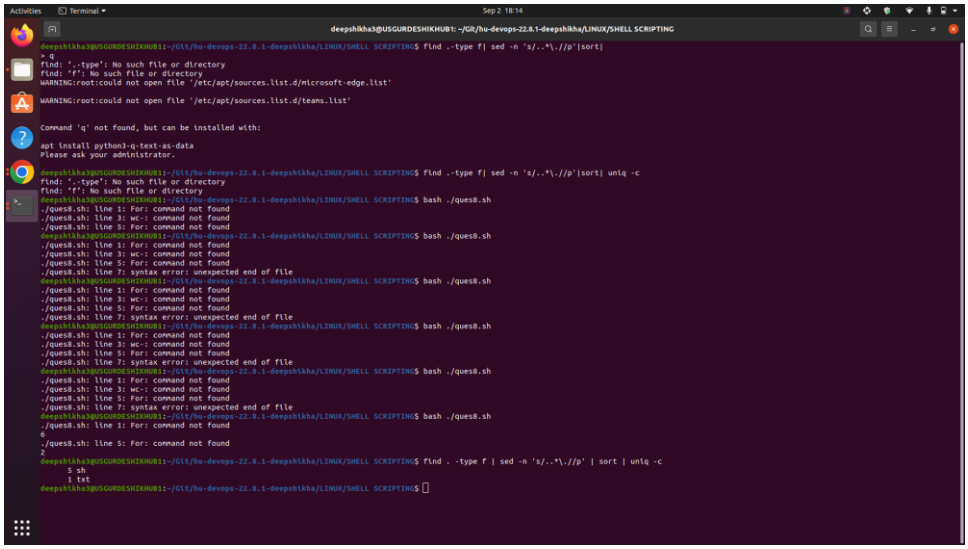
1. input_dir/
2. -- dir1/
3. -- -- file1.txt
4. -- -- file1.js
5. -- -- file2.md
6. -- -- dir2/
7. -- -- -- -- file2.txt
8. -- -- -- -- file2.ts

9. -- file.md
10. -- file.sh
    expected Output -
11. Output
12. txt: 2
13. js: 1
14. md: 2
15. ts: 1
16. sh: 1
17. directories: 2

Solution:







```
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ find .-type f| sed -n 's/..*\.//p'|sort|
> q
find: '.-type': No such file or directory
find: 'f': No such file or directory
WARNING:root:could not open file '/etc/apt/sources.list.d/microsoft-edge.list'

WARNING:root:could not open file '/etc/apt/sources.list.d/teams.list'


Command 'q' not found, but can be installed with:

apt install python3-q-text-as-data
Please ask your administrator.

deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ find .-type f| sed -n 's/..*\.//p'|sort| uniq -c
find: '.-type': No such file or directory
find: 'f': No such file or directory
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
./ques8.sh: line 3: wc-: command not found
./ques8.sh: line 5: For: command not found
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
./ques8.sh: line 3: wc-: command not found
./ques8.sh: line 5: For: command not found
./ques8.sh: line 7: syntax error: unexpected end of file
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
./ques8.sh: line 3: wc-: command not found
./ques8.sh: line 5: For: command not found
./ques8.sh: line 7: syntax error: unexpected end of file
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
./ques8.sh: line 3: wc-: command not found
./ques8.sh: line 5: For: command not found
./ques8.sh: line 7: syntax error: unexpected end of file
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
./ques8.sh: line 3: wc-: command not found
./ques8.sh: line 5: For: command not found
./ques8.sh: line 7: syntax error: unexpected end of file
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ bash ./ques8.sh
./ques8.sh: line 1: For: command not found
6
./ques8.sh: line 5: For: command not found
2
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ find . -type f | sed -n 's/..*\.//p' | sort | uniq -c
      5 sh
      1 txt
deepshikha3@USGURDESHIKHUB1:~/Git/hu-devops-22.8.1-deepshikha/LINUX/SHELL SCRIPTING$ 
```

Steps:

1. **I have written a script to count the no of files and directories present.**
2. **Saved the file with .sh extension.**
3. **Open terminal and run command to execute the shell script file.**
4. **The output will tell the count.**
5. **Output is attached in the screenshot.**

Command:

bash ./ques8.sh

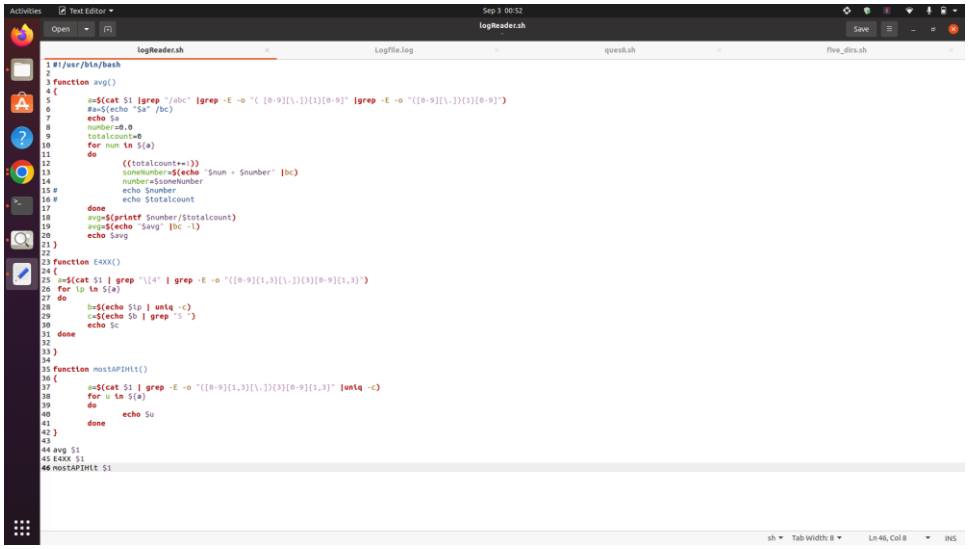
Ques 9. In log file which looks like this:
[status code] IP /endpoint timestamp_utc response_time_s message
- give avg response times of all /abc calls
- give all endpoints with more than 5 4xx errors
- give Ip with most API hits

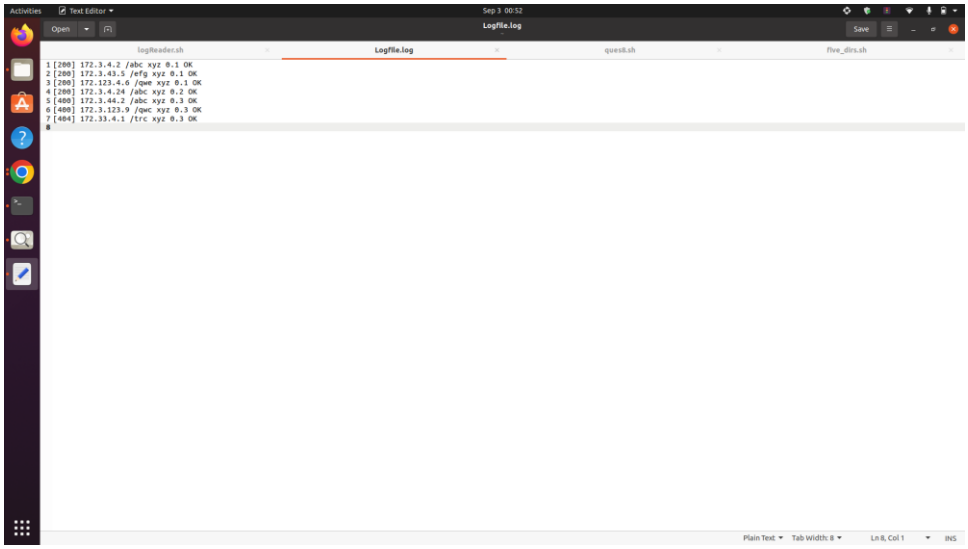
[200] 172.3.4.2 /abc xyz 0.1 OK
[200] 172.3.43.5 /efg xyz 0.1 OK
[200] 172.123.4.6 /qwe xyz 0.1 OK
[200] 172.3.4.24 /abc xyz 0.2 OK
[400] 172.3.44.2 /abc xyz 0.3 OK
[400] 172.3.123.9 /qwc xyz 0.3 OK
[404] 172.33.4.1 /trc xyz 0.3 OK

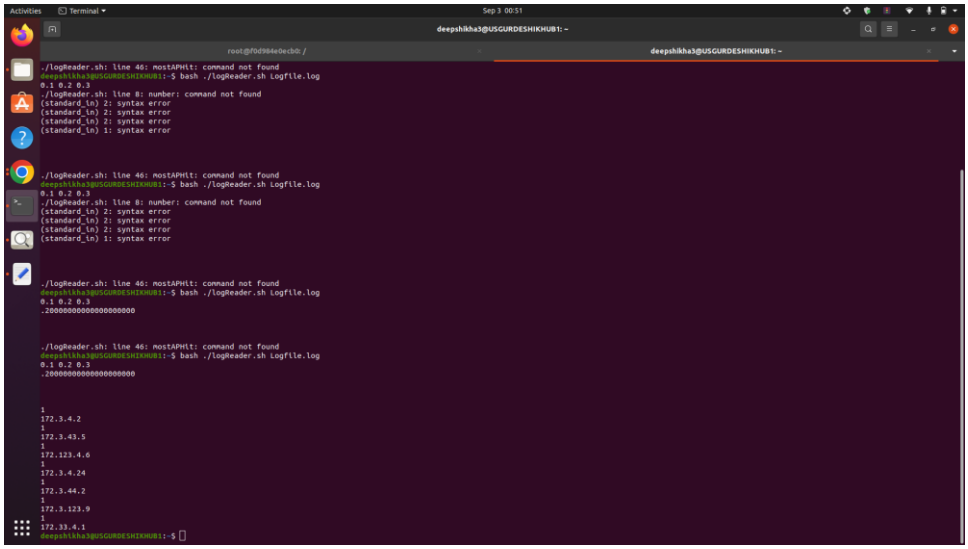
example - <shell script file> <file name> /<endpoint>

./log_analysis.sh <filename> /abc -> 0.2

Solution:







Steps:

1. **Created a script and saved it with .sh extension.**
2. **Created a log file with the given data with extension .log.**
3. **Open terminal and run script with log file.**

Commands:

gedit logReader.sh

bash ./logReader.sh Logfile.log