# **Assignment - 1**

**Aim**: Create a shell for ubuntu operating system which will mimic the behavior of bash shell.

### Theory:

#### Shell in ubuntu:

In Linux, the shell is the user interface used to command the system. It accepts human-readable commands from the user and converts them into something the operating system can understand. A shell script is a series of commands written in plain text file. It is just like batch file in MS-DOS but it has more features compared to the batch file. Shell scripting is a powerful programming method allowing for an efficient way of executing a sequence of commands.

#### Some basic shell commands:

pwd: Print Working Directory - shows the current directory you are in.

Is: List Directory Contents - displays the files and directories in the current directory.

cd: Change Directory - used to change the current working directory.

mkdir: Make Directory - creates a new directory.

rmdir: Remove Directory - removes an empty directory.

rm: Remove - deletes files or directories.

touch: Create Empty File - creates an empty file.

cat: Concatenate and display file contents - displays the contents of a file.

sudo: Superuser Do - executes a command with superuser (administrative) privileges.

## **Program & Output**

```
import os
from tkinter import *
import getpass
import socket
def execute_command():
  input = command.get()
  output_text.insert(END, f' {input}\n')
  if input.lower() == "exit":
      root.destroy()
      return
   try:
       if(input == "history"):
           output = os.popen("cat /home/vedant/.bash_history").read()
       elif(input == "top"):
           output = os.popen("ps aux").read()
       else:
           output = os.popen(input).read()
       output text.insert(END, output)
   except Exception as e:
       output text.insert(END, f"Error executing command: {e}\n")
  command.delete(0,END)
   output_text.insert(END, f"{username}@{hostname} ~ ")
if name == " main ":
  root = Tk()
  root.title("Terminal")
  root.configure(bg="#000")
  root.resizable(False,False)
  username = getpass.getuser()
  hostname = socket.gethostname()
```

```
output_text = Text(root, wrap=WORD, width=80, height=30, bg="#000",
fg="#fff")
  output_text.grid(row=0, column=0, padx=10, pady=10)

scrollbar = Scrollbar(root, command=output_text.yview)
  scrollbar.grid(row=0, column=1, sticky='nsew')
  output_text.config(yscrollcommand=scrollbar.set)

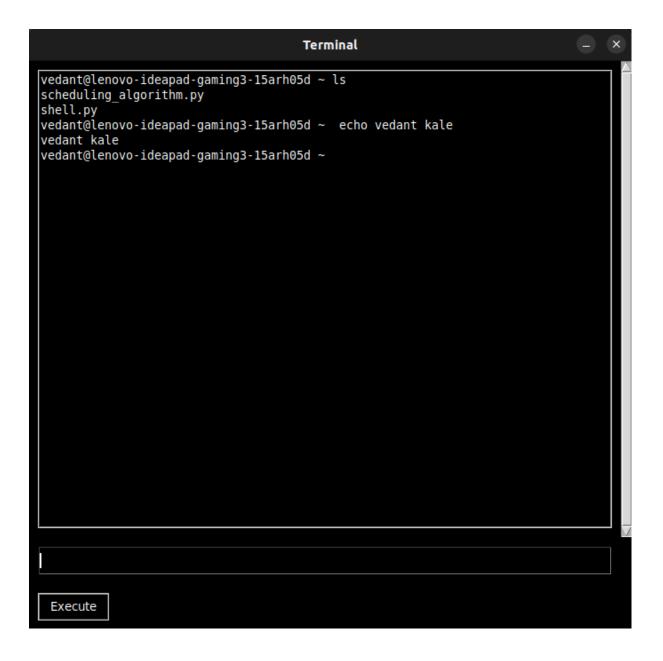
output_text.insert(END, f"{username}@{hostname} ~")

command = Entry(root, width=80 , bg="#000", fg="#fff",
insertbackground="#fff")
  command.grid(row=1, column=0, padx=10, pady=10, ipady=5)

# Create a button to execute the command
  execute_button = Button(root, text="Execute",
command=execute_command,bg="#000", fg="#fff")
  execute_button.grid(row=2, column=0, pady=10, padx=10, sticky=W)

root.mainloop()
```





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a 6
```

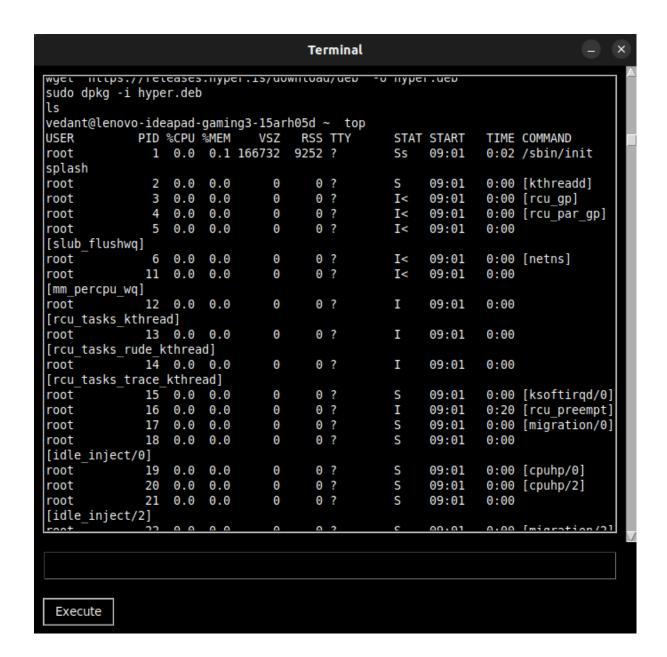
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```

Execute

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vedant@lenovo-ideapad-gaming3-15arh05d ~ history
df
sudo apt update
sudo apt upgrade
ls
cd Downloads/
./configure
tar -zxvf postman-linux-x64.tar.gz
nano /home
sudo apt-get install git
sudo apt install nodejs
node -v
sudo apt install npm
git -v
git --version
git clone git@github.com:COD-23/StudyNex---Frontend.git
cd ..
rd ~/.ssh
```

Execute



#### **Conclusion:**

Hence, here we learnt about shell and shell commands and constructed a python terminal app using tkinter.