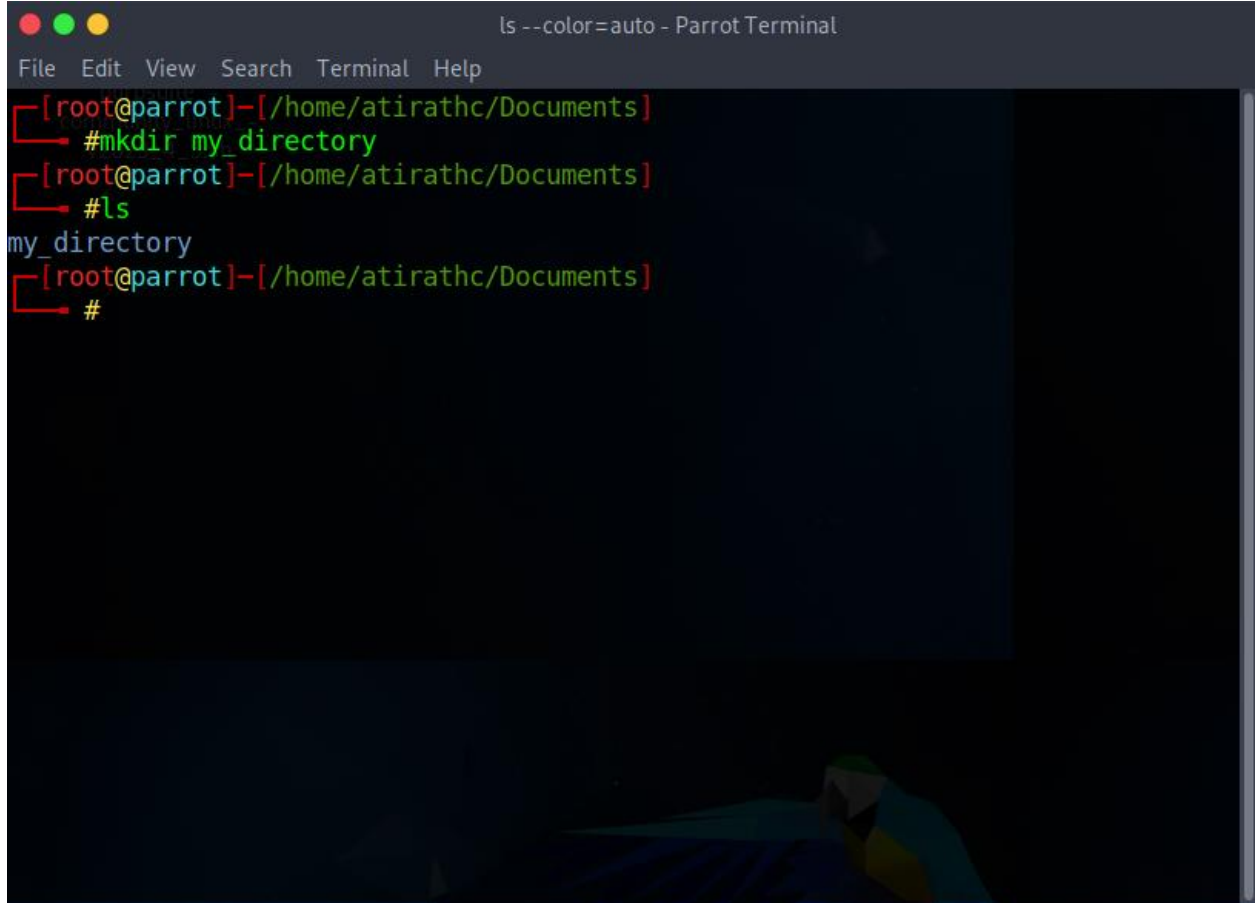


Assignment: Bash Shell Basics

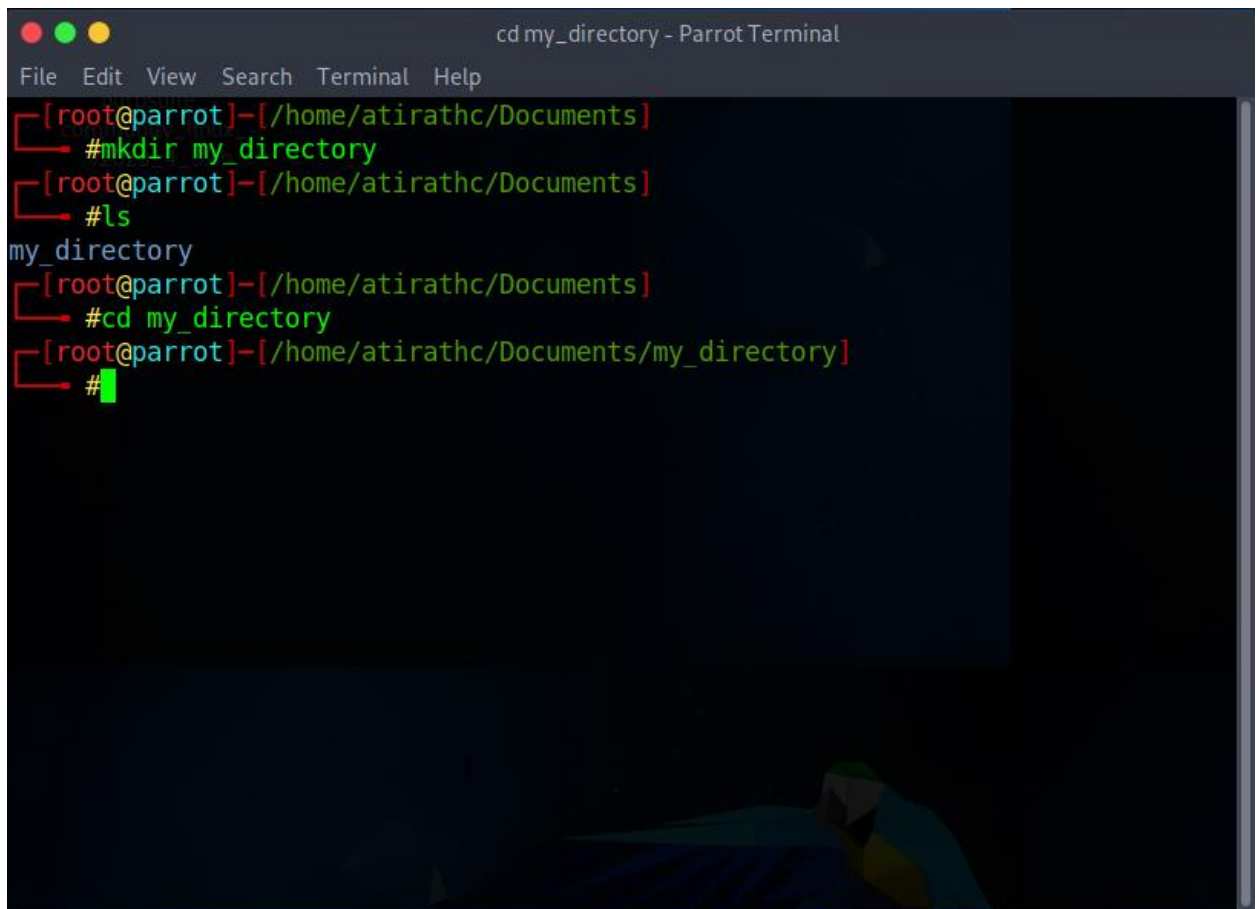
Task 1: File and Directory Manipulation

1. Create a directory called "my_directory".

A screenshot of a Parrot Terminal window. The title bar at the top reads "ls --color=auto - Parrot Terminal". Below the title bar is a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows a user at the root of a machine named "parrot" in the directory "/home/atorathc/Documents". The user enters the command "#mkdir my_directory", and the prompt changes to "my_directory". Then, the user enters "#ls", and the prompt returns to the root directory. The terminal has a dark background with a faint parrot illustration at the bottom right.

```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[root@parrot]-[/home/atorathc/Documents]
#mkdir my_directory
[root@parrot]-[/home/atorathc/Documents]
#ls
my_directory
[root@parrot]-[/home/atorathc/Documents]
#
```

- 2.
3. Navigate into the "my_directory".

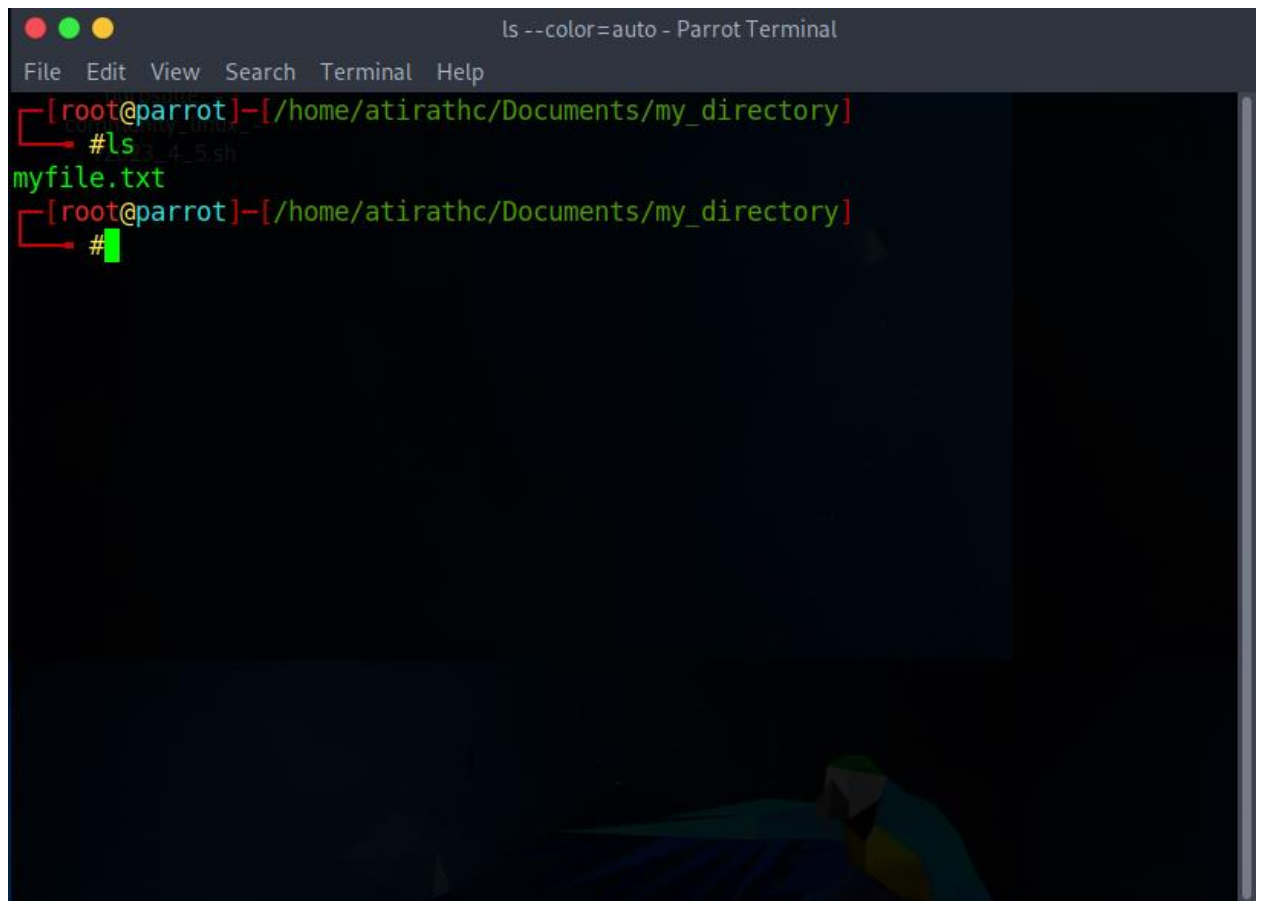
A screenshot of a Parrot Terminal window titled "cd my_directory - Parrot Terminal". The terminal has a dark background with a faint parrot illustration at the bottom. The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal shows the following commands and their outputs:

```
[root@parrot]-[/home/atorathc/Documents]
#mkdir my_directory
[root@parrot]-[/home/atorathc/Documents]
#ls
my_directory
[root@parrot]-[/home/atorathc/Documents]
#cd my_directory
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

- 4.
5. Create an empty file called "my_file.txt".

```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ] - [ /home/atorathc/Documents ]
# mkdir my_directory
[ root@parrot ] - [ /home/atorathc/Documents ]
# ls
my_directory
[ root@parrot ] - [ /home/atorathc/Documents ]
# cd my_directory
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# touch myfile.txt
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# ls
myfile.txt
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
#
```

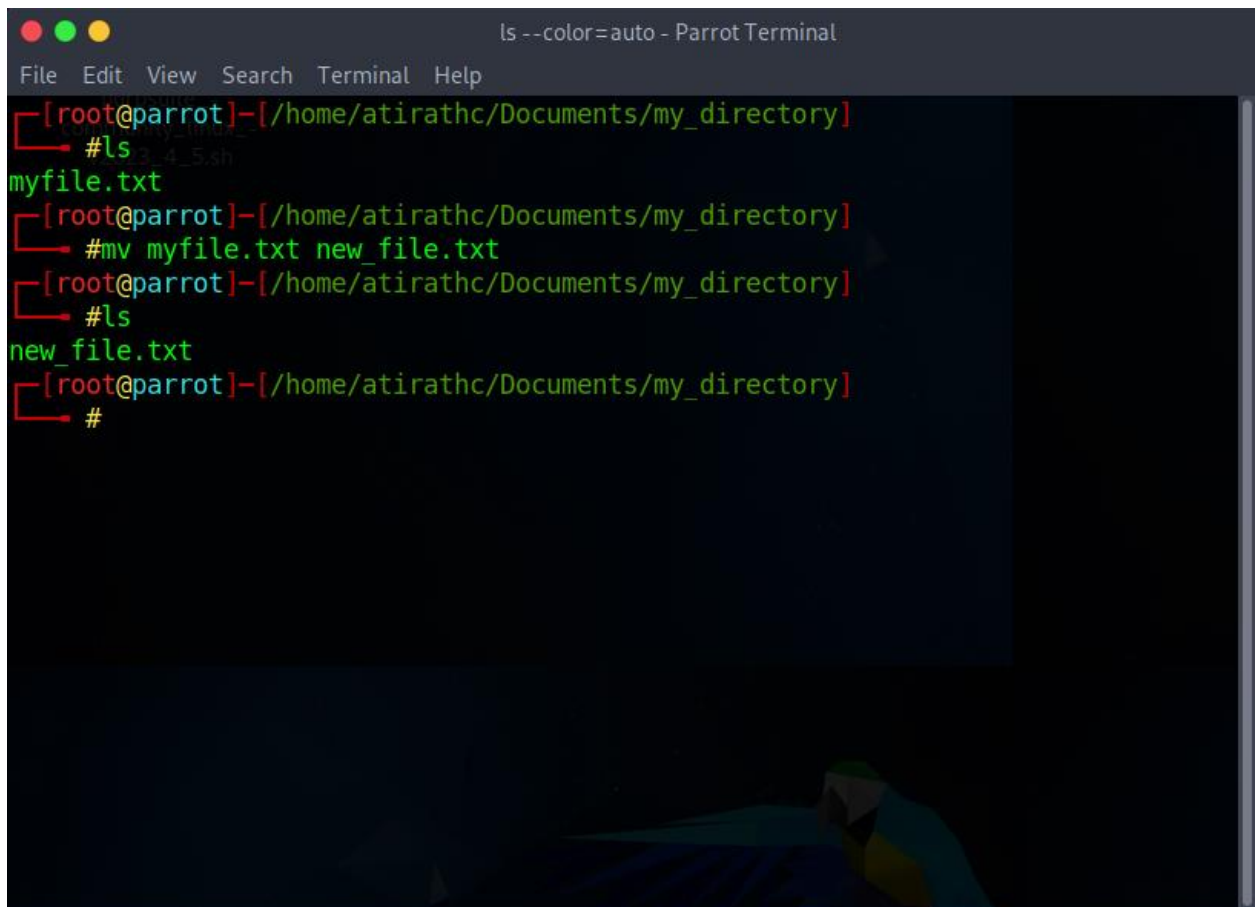
- 6.
7. List all the files and directories in the current directory.



The image shows a Parrot Terminal window with a dark background and a light blue parrot logo in the bottom right corner. The terminal title bar reads "ls --color=auto - Parrot Terminal". The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows a user at the root of a parrot machine in the directory `/home/atorathc/Documents/my_directory`. The user enters the command `ls`, and the output displays `myfile.txt` in green text. The prompt `#` is visible on the next line.

```
[root@parrot]-[/home/atorathc/Documents/my_directory]
#ls
myfile.txt
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

- 8.
9. Rename "my_file.txt" to "new_file.txt".



```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[roo@parrot]-[/home/atorathc/Documents/my_directory]
#ls
myfile.txt
[roo@parrot]-[/home/atorathc/Documents/my_directory]
#mv myfile.txt new_file.txt
[roo@parrot]-[/home/atorathc/Documents/my_directory]
#ls
new_file.txt
[roo@parrot]-[/home/atorathc/Documents/my_directory]
#
```

- 10.
11. Display the content of "new_file.txt" using a pager tool of your choice.

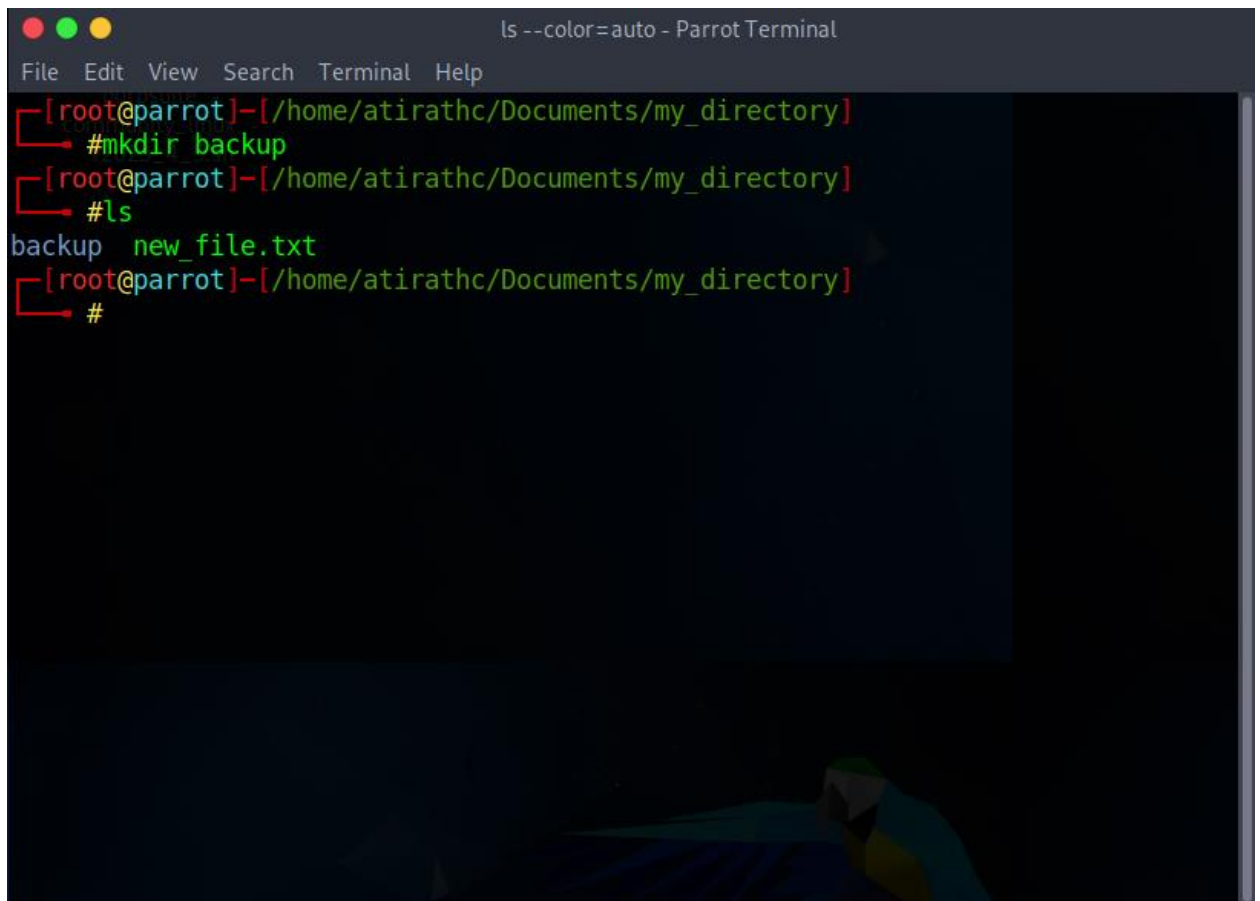
```
cat new_file.txt - Parrot Terminal
File Edit View Search Terminal Help
[root@parrot]-[/home/atorathc/Documents/my_directory]
#ls
myfile.txt
[root@parrot]-[/home/atorathc/Documents/my_directory]
#mv myfile.txt new_file.txt
[root@parrot]-[/home/atorathc/Documents/my_directory]
#ls
new_file.txt
[root@parrot]-[/home/atorathc/Documents/my_directory]
#cat new_file.txt
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

- 12.
13. Append the text "Hello, World!" to "new_file.txt".

```
cat new_file.txt - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
myfile.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mv myfile.txt new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#cat new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#echo "Hello World!"
Hello World!
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#echo "Hello World!">>new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#cat new_file.txt
Hello World!
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#
```

14.

15. Create a new directory called "backup" within "my_directory".



```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mkdir backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
backup  new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#
```

- 16.
17. Move "new_file.txt" to the "backup" directory.


```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mkdir backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
backup new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mv new_file.txt ./backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#cd backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory/backup ]
#ls
new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory/backup ]
#
```

18.

19. Verify that "new_file.txt" is now located in the "backup" directory.

```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mkdir backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
backup new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#mv new_file.txt ./backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#ls
backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory ]
#cd backup
[ root@parrot ]-[ /home/atorathc/Documents/my_directory/backup ]
#ls
new_file.txt
[ root@parrot ]-[ /home/atorathc/Documents/my_directory/backup ]
#
```

- 20.
21. Delete the "backup" directory and all its contents.

22.

```
ls --color=auto - Parrot Terminal
File Edit View Search Terminal Help
[atirathc@parrot]-[~/Documents/my_directory]
└─ $rm -r backup
rm: descend into write-protected directory 'backup'? y
rm: remove write-protected regular file 'backup/new_file.txt'? y
rm: cannot remove 'backup/new_file.txt': Permission denied
└─ [x]-[atirathc@parrot]-[~/Documents/my_directory]
└─ $sudo su
[sudo] password for atirathc:
Sorry, try again.
[sudo] password for atirathc:
└─ [root@parrot]-[/home/atirathc/Documents/my_directory]
└─ #rm -r backup
└─ [root@parrot]-[/home/atirathc/Documents/my_directory]
└─ #ls
└─ [root@parrot]-[/home/atirathc/Documents/my_directory]
└─ #
```

Task 2: Permissions and Scripting

- Create a new file called "my_script.sh".

•

```
cat my_script.sh - Parrot Terminal
File Edit View Search Terminal Help
└─ [root@parrot]-[/home/atirathc/Documents/my_directory]
└─ #touch my_script.sh
└─ [root@parrot]-[/home/atirathc/Documents/my_directory]
```

- Edit "my_script.sh" using a text editor of your choice and add the following lines:

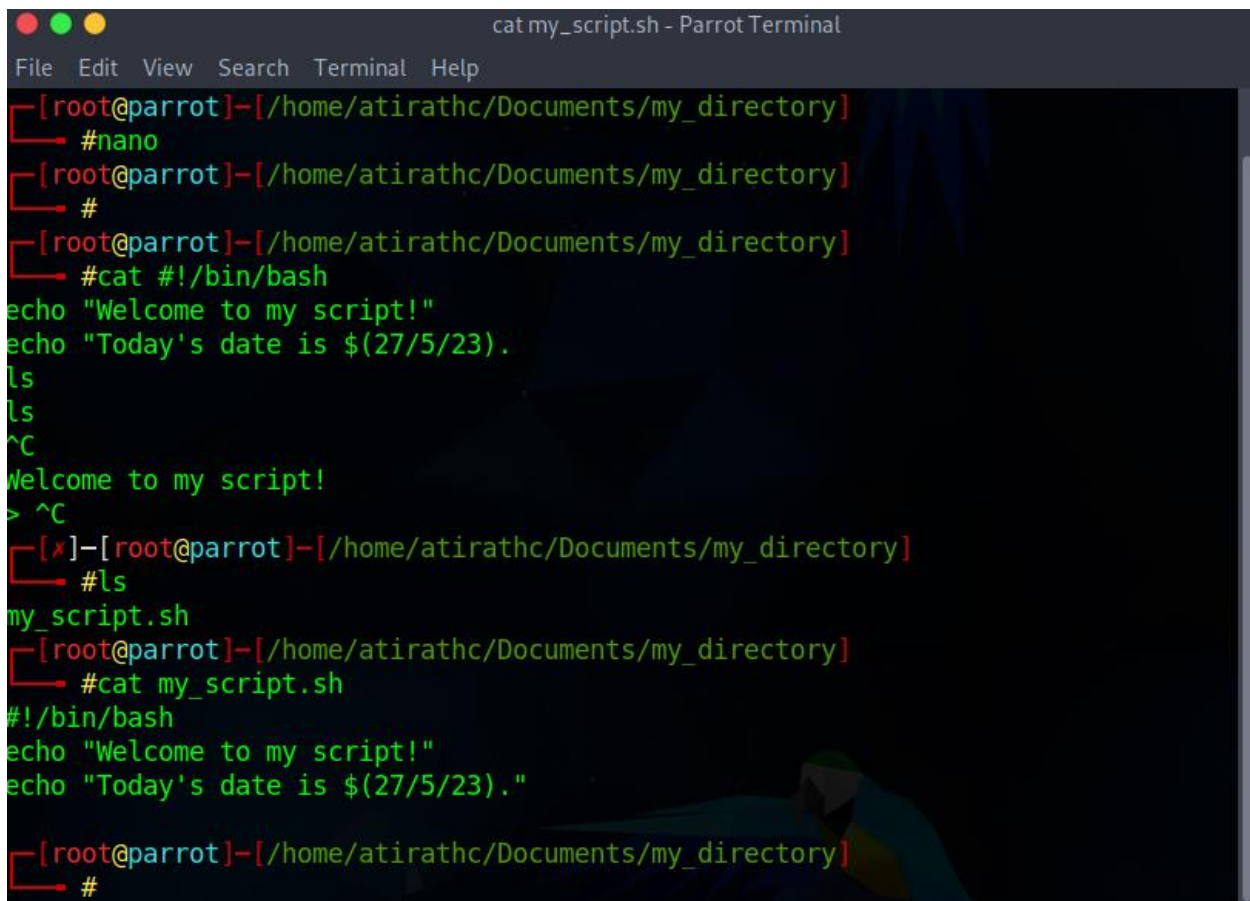
bash

#!/bin/bash

echo "Welcome to my script!"

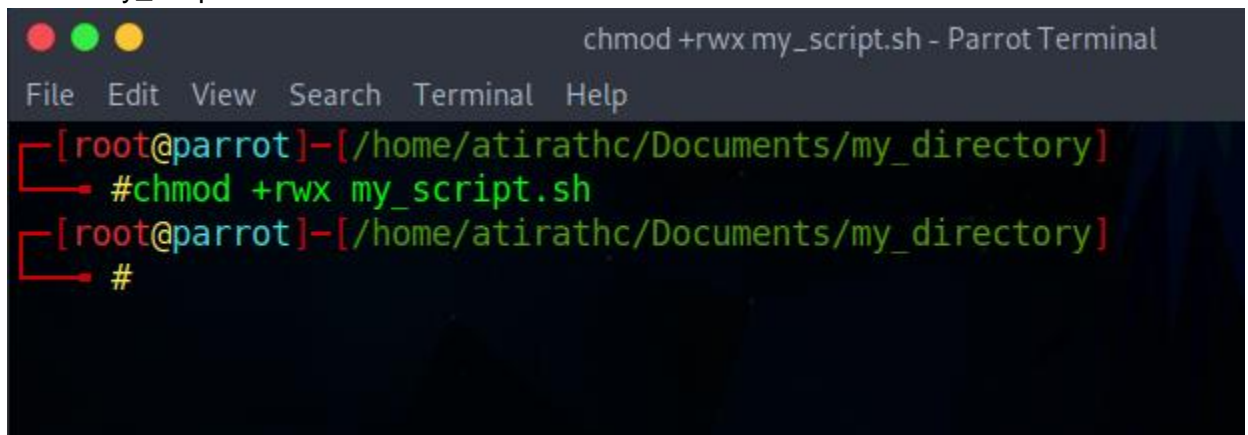
echo "Today's date is \$(date)."

Save and exit the file.



```
cat my_script.sh - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# nano
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
#
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# cat #!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(27/5/23)."
ls
ls
^C
Welcome to my script!
> ^C
[ x ] - [ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# ls
my_script.sh
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# cat my_script.sh
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(27/5/23)."
```

- Make "my_script.sh" executable.



```
chmod +rwx my_script.sh - Parrot Terminal
File Edit View Search Terminal Help
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
# chmod +rwx my_script.sh
[ root@parrot ] - [ /home/atorathc/Documents/my_directory ]
#
```

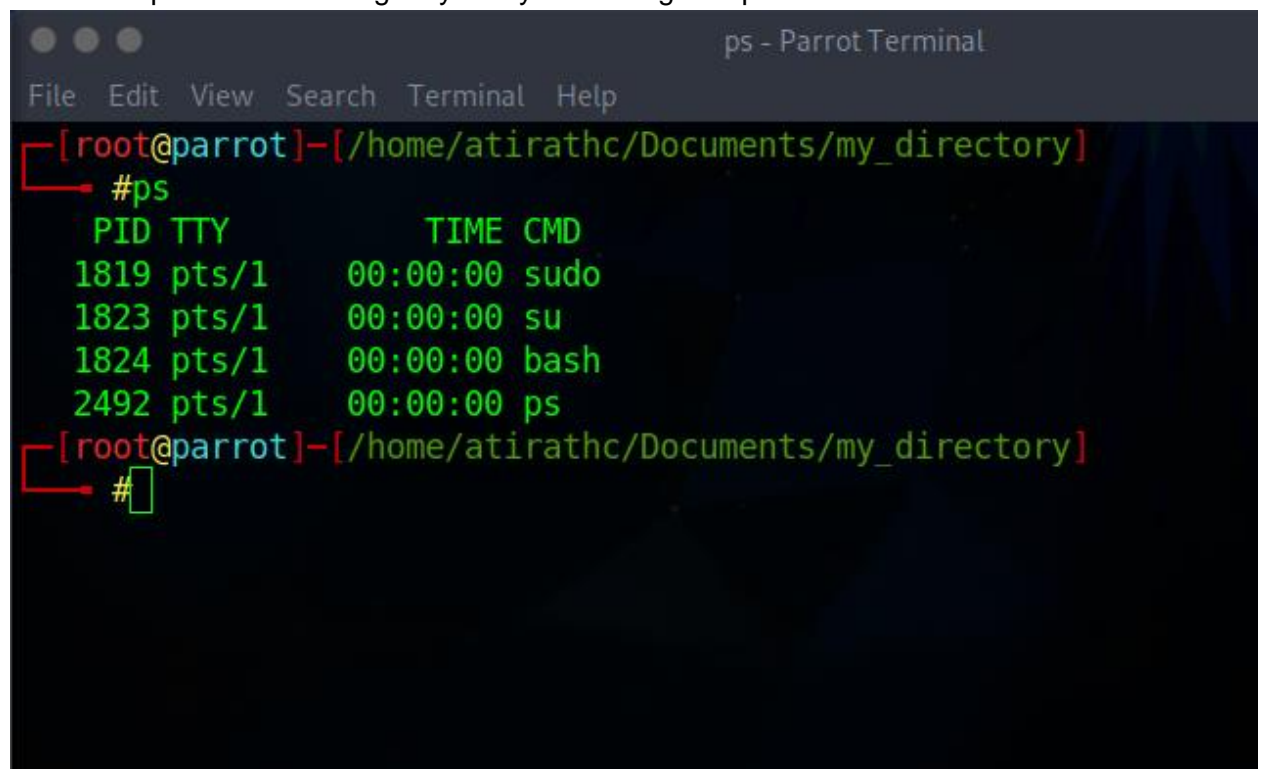
-
- Run "my_script.sh" and verify that the output matches the expected result.

```
[root@parrot]-[/home/atorathc/Documents/my_directory]
# ./my_script.sh
Welcome to my script!
Today's date is Sunday 28 May 2023 07:26:50 PM IST.
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

-

Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.



The screenshot shows a Parrot Terminal window titled "ps - Parrot Terminal". The terminal displays the output of the "ps" command, which lists running processes. The output is as follows:

```
[root@parrot]-[/home/atorathc/Documents/my_directory]
# ps
  PID TTY          TIME CMD
 1819 pts/1        00:00:00 sudo
 1823 pts/1        00:00:00 su
 1824 pts/1        00:00:00 bash
 2492 pts/1        00:00:00 ps
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

-

- Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.


```
pgrep bash - Parrot Terminal
File Edit View Search Terminal Help
[root@parrot]-[/home/atorathc/Documents/my_directory]
#ps
  PID TTY          TIME CMD
 1819 pts/1    00:00:00 sudo
 1823 pts/1    00:00:00 su
 1824 pts/1    00:00:00 bash
 2492 pts/1    00:00:00 ps
[root@parrot]-[/home/atorathc/Documents/my_directory]
#pgrep bash
1773
1811
1824
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

-
- Use the "wc" command to count the number of lines in the filtered output.

```
[x]-[root@parrot]-[/home/atorathc/Documents/my_directory]
#wc my_script.sh
4 11 74 my_script.sh
[root@parrot]-[/home/atorathc/Documents/my_directory]
#
```

-

Submission:

Provide a document or text file containing the commands used to complete the tasks above, along with any relevant output or screenshots. Include your explanations or observations where necessary.